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# Housing values and satisfactions of married students

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HOUSING VALUES AND SATISFACTIONS  
OF MARRIED STUDENTS.

Iowa State University, Ph.D., 1968  
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**HOUSING VALUES AND SATISFACTIONS OF MARRIED STUDENTS**

**by**

**Vijay Taneja**

**A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
The Requirements for the Degree of  
DOCTOR OF PHILOSOPHY**

**Major Subject: Sociology**

**Approved:**

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**1968**

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## INTRODUCTION

A house is modern man's relatively permanent abode on earth. Since it is his most immediate physical environment, it plays a role much greater than that of mere physical protection.

The early usage of the word housing was primarily associated with the need of physical protection against the inclemencies and vicissitudes of weather and safety from wild animals and foes. The early man put wood and stones together to adjust the natural environment for his benefits, thus creating physical conditions which would best serve his needs.

As man moved from the nomadic to the monolithic to the neolithic period, he attempted to mold his housing to his changing needs. He constructed more permanent abodes and in Maslow's (63) thinking it can be said, that man, having met his basic needs of safety, became oriented towards the desire for the satisfaction of higher order needs which could be satisfied through housing.

A house is thus not just bricks, walls, cement, wood or any other building material put together with ingenuity, but it is a physical structure of great significance to man and his progeny.

Wheeler (99, p. 12) refers to housing as "... a fundamental ecological relationship between the family and its home, the occupant and his shelter, the human and his living environment."

### Housing, Needs and Values

Though change in the concept of housing has been apparent over the years, it has not kept pace with other advancement. The new knowledge

of what human beings need for adequate development has lagged behind scientific and technological triumphs of the present century. As Wheeler (99, p. 12) says, "We have accepted our living environment 'as is'. We... have let it shape our lives and personalities...."

There is little scientific basis for justifying the relationship between housing and human needs, values and behavior and the few findings that are available are by no means entirely conclusive. Yet, some of Wilner's (103) data in the Baltimore housing study suggest that his well housed families did gain in development of aim and purpose over a three year span of differential housing. This can be taken as an indication of the important role housing plays in an individual's life.

Levenson as cited in Agan (2, p. 11) has said,

The kind of house a person lives in and the kind of community he lives in define what he can be and what he can do. It makes possible or inhibits certain kinds of behavior. It encapsulates or limits the person on the one hand, or, on the other, it can free his potential for innovation. The house and the community may be something which stunts a person's growth, or can be something which stimulates further growth and development.

The question then arises, what kind of houses should be built which would best serve their occupants? The logical answer appears to be, that as people are to be the occupants, the complex relationships between space, form, structure and design, that is, the total physical environment of the house and the needs and values of people must be considered. In other words, housing should be consumer oriented. Architects and builders should be aware of the needs and values of people they are trying to serve (32). Therefore, team research done cooperatively

by the builder, architect and the social scientist on livability studies, consumer attitudes and values takes on great importance. The application of knowledge about the basic values held by individuals can be used to advantage to provide more humanized and rational housing for individuals and families. The thesis is that houses would be more satisfying and livable if they are constructed with due regards to the socio-psycho values of the consumers. But such social science research, to be really worthwhile, must be conducted on a large scale and among local and diversified groups. Housing preferences and satisfactions of people vary according to their personal, social and situational characteristics. Therefore it is impractical to use data of livability studies conducted in a local area for applicability to diversified housing conditions. By doing so, the very purpose of livability preference studies will be forfeited. On the other hand large scale livability studies covering diversified social groups and conditions could be a costly undertaking.

Another related problem in the interest of cost reduction is the present day trend of highly standardized housing, even though housing preferences remain as varied as the number of families. As it does not seem feasible to accommodate individual preferences, naturally the question is raised why investigate these. But as Riemer (80, p. 149) states,

Standard construction does not eliminate the problem of consumer preferences. However, it makes more difficult the task of pooling a great variety of preferences and so combining them in design and construction that the resulting compromise causes a minimum of discomfort. The total comfort of all individual consumers has to be maximized.

Therefore the dismissal of consumer preference studies on the basis of the cost factor does not seem to be a sufficient excuse. Granted social science research related to housing could be an expensive undertaking, this cost factor becomes negligible in view of the social costs of houses built which do not attempt to consider the human aspects of their occupants.

As Carreiro (15, p. 13) says:

We must look critically at the consequences and the "domino effect" of our decisions to determine whether these minimal solutions and economically oriented concepts of efficiency are not actually "penny-wise and pound-foolish" delusions.

If we are unwilling to pay the initial costs or fail to make the most effective use of design and planning to create environments which contribute to emotional growth and aesthetic needs of individuals, we are simply putting off final payment to a later date. We are forced ultimately to pay a staggering interest rate on this borrowed and false sense of economy.

Does our permanent destruction of the natural landscape and of human ecology in the name of progress represent a real economy? Aren't the tremendous costs which we pay for the maintenance of prisons, mental institutions, welfare and social agencies, law enforcement, etc., in large part the other side of this economy? If we are to be honest, these indirect costs must be figured in.

Importance of human values is being recognized by many scientific disciplines today. Though slow, the emphasis is also shifting to a focus on the individual in the area of housing. Kimble, as cited in Good and Srivastava (30, p. 39), states, "A hall mark of the last half of this century in America is the movement of our society from what we might call an artifact-orientation to people-orientation...."

Human values thus assume a magnitude of importance in all facets

of life. Concern in this dissertation is with human values and satisfactions in relation to housing. As Carreiro (15, p. 15) says:

...we need broader and deeper insight into the full spectrum of human needs and values. In terms of producing more satisfying answers to our housing needs, I am convinced that we already possess the technical know how. What we lack is the human know-why.

### Objectives of the Study

The main objective of this study is not to make a comprehensive survey of housing values and housing satisfactions. Rather, it is an attempt to gain understanding and competency in measuring these values and satisfactions. Interest is further limited to only family housing and more specifically to one type of family housing. These limitations are necessary because of the time factor and financial resources. However, valuable insights should be gained which can be used in studies of a more comprehensive nature. Further, this knowledge about indices construction can be advantageously used in conducting housing research in India, as the author will be involved in housing research of this nature on return to India. It would have been preferable even in the present study to use Indian data, but due to certain limiting factors it was not feasible to do so.

Other objectives of this study involve the conceptualization of the importance of housing as the physical environment of the family and housing values as necessary criteria for any housing decisions. The following are the objectives explicitly stated:



1. To develop a theoretical rationale and conceptual framework depicting:
  - (a) the influential role of the physical familial environment, the house, in the family setting and
  - (b) the importance of human values in making housing decisions to attain the housing goals.
2. To gain familiarity with the general methodological procedures in scale construction and measurement.
3. To determine from wives of married students residing in one type of university housing:
  - (a) their dominant housing values and the interrelations among these values and
  - (b) their housing satisfactions with their living unit.
4. To investigate if there is any association between housing values and housing satisfactions.
5. To ascertain if there is any relationship between:
  - (a) housing values and certain situational characteristics and
  - (b) housing satisfactions and certain situational characteristics.

Studies like the present one could lead to the development of a valid and reliable commercial housing value scale which could be used to assess the housing values of individuals and families. However, considering that such a scale may not be developed, this study nevertheless seems justifiable on the grounds of the current day importance attached to human values in the field of housing which is man's most immediate physical environment.

The population for the present study consisted of American born wives of American students residing in one type of University housing provided for married students and staff at the Iowa State University. The sample was constituted of 216 wives who were personally interviewed to obtain the required data for this study.

This dissertation is divided into four major parts. The first part is concerned with the development of a theoretical framework, the delineation and definition of relevant concepts and the derivation of hypotheses. The next part contains a general description of the study setting, the characteristics of the sample, a discussion of the explication process by which empirical hypotheses are derived, and the methodological procedures involved in measurement of the variables and the statistical tests used.

The findings relevant to objectives three, four, and five and their ensuing discussions are presented in the third part. The fourth and final part, contains a brief summary of the dissertation and suggestions for further research.

## REVIEW OF LITERATURE

A retrospective survey of literature is crucial to any research endeavor. The principal purposes for such an undertaking are:

1. To investigate prior theoretical and empirical work done in the arena of one's interest.
2. To facilitate the delineation and formulation of the research problem.
3. To apprehend means of developing a theoretical framework for possible conceptualization of the problem, generation of theoretical hypotheses and interpretation of findings.
4. To gain insights for possible methods and procedures which can be pursued in (a) the explication of theoretical concepts; (b) the development of operational definitions; (c) delimitation of the population; (d) techniques for eliciting data from respondents; (e) techniques of statistical analysis; (f) drawing of sample (g) and in the general execution of the study.

A review of literature revealed very little information which is directly relevant to the problem under study. In view of this situation a standard review of literature is ruled out. Instead, it is contemplated that an incorporation of relevant literature in the pertinent sections of this dissertation will be far more meaningful and logical.

## THEORETICAL ORIENTATION

Merton (67) has suggested that theory and research must be inter-related. Each is vital to the development of the other. He points out that theory guides and directs empirical research, it extends the horizon of the research findings when it is couched in more general statements of relationship. Also, research findings that are derived from a set of theoretical propositions tend to be more useful because they may suggest consequences in areas of behavior other than that in which the original research was conducted. Such research findings also allow for the cumulation of both theoretical and empirical knowledge. Besides, the use of a theoretical framework in empirical studies provides grounds for general prediction.

Keeping the above points in mind, the main objective of this chapter is to develop a theoretical orientation for the present study within which concepts can be defined and logical hypotheses developed. By theoretical orientation is meant the general level discussion and specification of concepts that will constitute the focus of data gathering and analysis. In order to make the presentation of this chapter meaningful it is divided into five sections:

1. The overall general orientation of the study, involving a discussion in broad and general terms of the concepts of ecology and environment in relation to man, human needs and housing.
2. Taxonomical and theoretical orientation of the value concept in general and in relation to housing.

3. Definition and discussion of the satisfaction concept in general terms and with reference to housing values.
4. Identification of the dimensions of the housing value concept and derivation of general and sub-general hypotheses involving the concepts of housing values and housing satisfactions.
5. Definition and discussion of the relevant situational characteristics and derivation of general, sub-general and sub-hypotheses related to housing values, housing satisfactions and situational characteristics.

#### General Orientation

##### Ecology

The science of ecology deals with the mutual relations between organisms and their environment. The usage of the concept of ecology varies in different disciplines. McKenzie (65, p. 288) the first sociologist to attempt a formal definition of human ecology characterized it as a "...study of the spatial and temporal relations of human beings as affected by the selective, distributive and accommodative forces of the environment." Gould and Kolb (33) give the social science interpretation of ecology. They (33, p. 215) say, "...it is restricted to human synecology, that is the study of relations between human groups (or populations) and their respective environments, especially their physical environments."

##### Environment

The word environment in turn is very broad and general and can be defined in a number of ways depending upon the context in which it is

being used. Fairchild (25, p. 107) refers to it as, "The field of effective stimulation, and interaction for any unit of living matter." An individual is a product of his heredity and environment. McHarg (64, p. 56) says, "...man as a creature of environment is absolutely dependent upon stimuli." The various environmental conditions in which man finds himself form his references. Man's environment has many dimensions. According to Fairchild (25, p. 107) his environment can be classified as, "...physiographic, bionomic, economic, cultural (material and non-material, institutional and symbolic) and personal social."

#### Macro and micro level environment

These broad classifications of man's environment can be examined at two levels, the macro or the external societal level and the micro or the internal familial level. The macro environment exerts the influences on the individual and the family unit due to the topographic, climatographic, political, legal, economic, social, religious and cultural characteristics of the external societal system. The microlevel environment exerts the internal influences on the family unit by the nature of the family's physical residence, bionomic, economic, religious and personal-social characteristics. Both the macro and the micro environment constitute man's field of effective stimulation. A child when born first comes into contact with the familial environment. For Cooley (17) the most important groups in the formation of an individual's human nature and development are primary groups. Under normal circumstances, the family is one of the most important primary groups. The familial environment thus must provide an optimal climate for the

development of its family members and the satisfaction of their basic human needs. Maslow (63) orders basic human needs in an hierarchical form which are more inclusive than the conventional triad of food, clothing and shelter. He classifies them as:

1. Physiological needs; for example: food
2. Safety needs; for example: shelter and security
3. Belonging needs; for example: love, affection and identification
4. Esteem needs; for example: self respect, prestige and success
5. Self actualization needs; for example: desire for self fulfillment.

Maslow (63) postulates that the lower order needs like the physiological and the safety, though the most prepotent needs, are not domineering at all times. They are dominant until satisfied, but once they are, the individual seeks satiation of the higher order needs. Thus, under favorable conditions man desires the satisfaction of the lower as well as the higher level needs.

Both the external societal level and internal familial level environment play an important role in the realization or non-realization of man's basic needs. However, it seems logical to assume that the familial environment, which is man's most immediate environment, is the principal one for the creation of a congenial or non-congenial climate for the satisfaction of its members' basic human needs. If this be so, then the internal familial environment takes on great importance. One important dimension of this familial environment is the physical, that is, the house.

### Physical familial environment

The house which is considered as man's physical familial environment must be a satisfying place both for the adult members and the children if the family is to successfully perform its function of bearing, rearing and nurturing. As Lemkau (54, p. 27) remarks,

Most of us would agree that unless the rearers of children are themselves leading a satisfactory existence, their child care will leave much to be desired. This is, in fact, the prime hypothesis of the whole body of housing research...that the house must provide a reasonable life for the adults living in it and that if it does not, the children will show ill health along with their parents, ill health both mental and physical.

The effect of the relationship between the house and its occupants is well stated by Neutra (72, pp. 24-25):

The nursery in which a child spends its first formative years, the bathroom in which it is taught the essentials of modern cleanliness, the house containing these rooms, the street in which this house stands, the neighborhood to which the street belongs, with its schools, places of work, worship, amusement, recreation - all are part of what may be called our constructed environment. It can be friendly, or hostile...to the human organism on which it perpetually acts and reacts.

Thus the physical dimension of the familial environment is of great significance and cannot be easily ignored. Housing has a great impact on family relations, social behavior and on self perception. Searles (88, p. 395) says;

It seems to me that,...a conscious ignoring of the psychological importance of the nonhuman environment exists simultaneously with a (largely unconscious) overdependence upon that environment. I believe that the actual importance of that environment to the individual is so great that he dare not recognize it. Unconsciously it is felt, I believe, to be not only an intensely important conglomeration of things outside the self, but also a large and integral part of the self.



The consequences of undesirable homes can have a lasting effect. Once built, houses are not readily changed. Winston Churchill as cited in Beyer (7, p. 280) has aptly remarked that "we first shape our buildings and then they shape us." Once a family occupies an apartment or a house, it has to adjust itself to the house. It is the family who suffers if the dwelling does not permit living without friction; it is the family who will become frustrated if the dwelling does not allow the performance of family activities.

Figure 1 is a conceptual framework depicting the family's physical field of effective stimulation in the confines of which the family attempts to satisfy the basic human needs of its members, both young and old.

If this assumption of the influential role of the physical structure of the family's residence is accepted, then the design and construction of this structure takes on great importance for its occupants. Logan (57, p. 5) states, "Building research faces a demanding task in determining the specifications for the design and construction of building interiors which will produce the optimum effect upon the occupants." The question then arises of what is optimum? How can it be determined whether one environment is better than another? What is optimum for one family may not be so for the other. It is therefore not easy to ascertain what will be the best environment for man. As Osmond (76, p. 7) says, "It is something complex, subtle and hard to put into words." There is no consensus of opinion as to what exactly is an optimum environment for man. Nevertheless, there is consensus of opinion

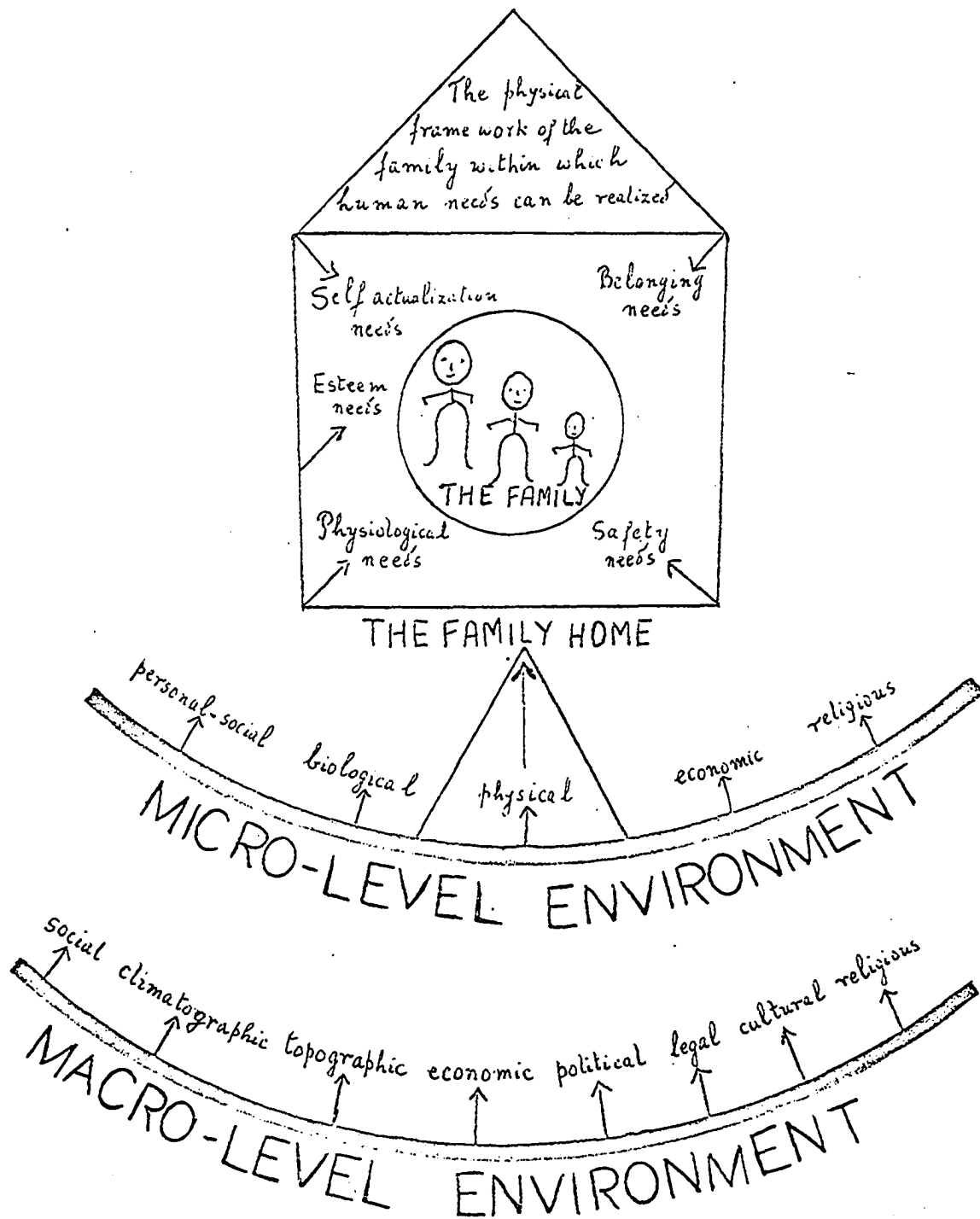


Figure 1. A conceptual framework depicting the physical dimension of the familial environment, "The House" in the confines of which the family attempts to satisfy the basic human needs of its members

that any optimal environment must provide conditions which will allow the occupants who inhabit it to reach their full potential. In other words, the housing environment must be satisfying to the individuals and families. This means the individuals and the families must be considered. As Riemer (80, p. 148) points out, "The goal of home construction, after all, lies in the social dimension; it is a frictionless family life. We must always aim for the best possible home adjustment..." The house must be designed for the occupants, though this is rarely done. Rowland (83, p. 12) states, "It is rare to find a building designed and built with the interests and characteristics of its occupants as the primary principles guiding the work." Rowland is of the view that 'human engineering' can contribute in providing more humanized and satisfying housing. He (83, p. 12) says, "...human factors engineering is particularly beneficial when the object of an undertaking is to use people to design and build rather complex things which are to be used by people." If the housing environment is to be satisfying, attention must be paid to the personal characteristics of the occupants as housing is a symbolic extension of the self. To achieve greater livability of dwellings, Beyer (8, p. 1) states:

...we must know more about families themselves, the way they live, the things they hold important, their attitudes and prejudices in short, the values they hold to, with respect to shelter.

As buildings become more anthropophilic, psychosocial considerations become indispensable (36, 48, 71). Porter (79, p. 2) indicates, "Psychological satisfaction with environment can be related to architecture in terms of the desirability of abstract values; such as comfort, security, economy, convenience...."

From the foregoing discussion it follows that satisfaction with housing will depend to a great extent on the housing values of the occupants. The housing values of the occupants in turn vary from family to family. This variation as Beyer (6) and Cutler (20) found is related to certain situational characteristics like age, income, occupation, family size and education. On the basis of this, a general proposition is now derived:

General proposition: There will be a relationship between specified housing values, housing satisfactions and situational characteristics of individuals.

#### Taxonomical and Theoretical Orientation of the Value Concept

The connotation of the term value has undergone a tremendous transformation during the present century. A few generations ago, the concept of value suggested in most people's minds, little other than the price of commodities in the market. This earlier conception of value in primarily economic terms is aptly pointed out by Mackenzie's (60, p. 13) comment: 'The value of a thing  
Is just as much as it will bring'.

As Mackenzie (60) says, old textbooks in economics bear abundant testimony of this conception of the value term. However, with the development of other social sciences, the deeper significance of the value concept was recognized. Today the concept of value is central to numerous disciplines, it is a key concept for understanding human behavior. All specialized social sciences make use of the term value. Social scientists have been working for a long time towards a definition of values as a scientific concept. Numerous definitions and explanations

of the value concept have been given by various writers from different disciplines, but like many abstract concepts, there is no one clear-cut definition for it. The value concept still remains complex and its interpretations multiple and ambiguous. In order to effectively use the value concept as an analytical tool, a clear understanding and delineation of the behavioral phenomena included in the concept become imperative.

In order to make the presentation of this section more comprehensible, the taxonomical and theoretical orientation of the value concept has been divided into six parts. In the first part, values will be discussed in an historical perspective but only within the sociological context. Presentation of a number of significant value definitions and their ensuing discussion will form the contents of the second part. A discussion of values and closely related concepts will be the subject matter of the third part. In the fourth part, an attempt will be made to summarize the value concept as it will be interpreted in the present study. A brief presentation of the typologies of values which have relevance for this study will be made in the fifth part. A general level discussion of housing values will be presented in the sixth part of this section.

#### Historical perspective

Values have been seen as possessing properties that render them recalcitrant to cognitive treatment. Many sociologists (27, 59) in the past were of this view and maintained that there exists an absolute difference between values (normative) and facts, thereby indicating that values in a normative framework are not amenable to scientific study.

The reasoning behind this assertion is that empirical inquiry is limited to existential propositions.

Hart (37) discredits the notion of equating values with nominalism, when he (37, p. 7) says:

There is no better proof against nominalism than the functional significance of values, their role in actions and interactions... were values meaningless words, we could not act upon them, our value-judgements could neither be communicable nor shareable... such judgements stand for facts, affairs which can be verified.

Hart (37) is of the opinion that values are generic concepts of significant importance and not mere phenomenological notions. He (37, p. 8) observes:

If we realize that values are not phenomena, given to our senses, but rather generic concepts which we arrive at by experiencing and comparing events, the value-problem loses all of its ominous, unsolvable character. We need only inquire whether these notions are verifiable or not, that is, examine their experimental and inferential meanings. No universal is undefinable. Undefinable are only words which stand for immediately given qualities. Values do not refer to such properties, but rather to similarities and regularities of our experiences.

Thus if a generic approach is used in examining values, it obliterates the notion of equating them with something metaphysical or abstruse. They no longer can be viewed as artifacts that can be easily dispensed with but on the contrary they assume a magnitude of importance and an inquiry into their validity becomes a necessity.

Durkheim (22) was one of the first social scientists who associated particular human relationships in various social structures with different existential values and systems of valuing. Contemporary social scientists still share many of Durkheim's basic ideas about values. His analysis of the possible functions and various systems of valuation in

society has been a contribution to value theory.

Another sociologist who is associated with the analysis of the functionality of the systems of valuing is Mannheim (61). Though Mannheim did not crystalize the relation between modes of values and society, he made a careful analysis of value systems in European cultures and associated them with their action patterns. He (61, p. 243) observed that "...a position in the social structure carries with it the probability that he who occupies it will think in a certain way."

Another important figure in the understanding of values and social action is Weber (95). He is well known for his four-fold ideal analysis of social action, of which the components were: Zweckrational, wert-rational, affektuell and the traditional modes of orientation.

Weber perceived social relationships as a state of attitudes. His general approach to the role of value systems in relation to social action is very similar to that of Durkheim (22) and Mannheim (61). However, the special importance of Weber's work as Mering (66, p. 11) points out, "...lies in his introduction of greater theoretical precision to the sociological analysis of the content of value system." The analyses of Durkheim, Mannheim and Weber of human conduct in terms of values were all at the theoretical level.

Thomas and Znaniecki (91) attempted to tie the concepts of meaning and value to observable phenomena. They (91, pp. 21-22) state:

The meaning of...values becomes explicit when we take them in connection with human actions....a social value may have many meanings, for it may refer to many different kinds of action.

Znaniecki (107, p. 34) defines values as the meaningful objectives of human actions, while things in themselves are meaningless and valueless objects. Actions are seen as the observable indication of values, thereby indicating the functionality of values in human actions.

Among the contemporary theoretical efforts to develop a better understanding of the role of values in human behavior, the works of Parsons (77) and Kluckhohn et al. (47) stand out. Germane to value theory is Parsons' (77) examination of the means-ends relationships with reference to social action and his joint study with Shils (78) on Values, Motives and Systems of Action. The latter study which is a systematic exposition of the different forms of human valuing is of particular significance to the advancement of sociological thought in the arena of value theory. Kluckhohn (46) is noted for his approach of bipolar value dimensions in analyzing the differential value orientations of five southwestern cultures. He proposed that a more formal and rigorous use of component analysis will help cut across cultural boundaries which he deems is necessary if value research is to go beyond empirical description.

This brief viewing of the value concept in its historical perspective bears testimony of the pragmatic trend in sociological thinking which helped supersede the earlier approach of the non-amenability of values to scientific treatment. The separation of valuation from scientific endeavor has been seriously questioned (5).

Most of the aforementioned writers have been chiefly concerned with making general statements about different forms of valuing as they are



related to whole cultures. Among them, Kluckhohn (46) is the only one who was concerned with values in terms of specific behavioral contexts which are observable in different cultures. However, current interest in societal differentiation has shifted from a focus on detailed value studies on whole cultures to that of different segments of the society. Recent writings in sociology and social anthropology are directed towards studying specific demands, goals, interests, expectations, communication patterns, social perspectives and other related aspects of particular publics or social groups in relation to their values and value orientations. Today social scientists are conducting extensive and intensive studies which are indicative of the interest in values and the role they play in human conduct and every day life. Mering (66, p. 8) observes, "Thought and value systems no longer are felt to exist sui generis, their major aspects can be derived from sociocultural phenomena."

#### Definitions of values

A cursory examination of the literature reveals that there is lack of consensus on a single definition of values. The value concept has attained a high degree of heterogeneity. This makes it difficult to present the viewpoints of all the writers or even to ascertain the adequacy of any one value definition. The concern here will, therefore, be limited to the presentation of some significant definitions of values and their ensuing criticisms and discussions.

Most of the discussions and definitions of values given by different writers (22, 47, 77, 78, 95, 100) have centered around the role of values

as influential criteria of human conduct, behavior and action. Kluckhohn et al. (47) have attempted to define values in the context of a general theory of action. They (47, p. 395) state:

A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means and ends of action.

Kluckhohn et al. go on to say that values put human action and behavior on the approval-disapproval continuum. They (47, pp. 395-396) distinguish 'the desirable' the guiding standard, from 'the desired', the motivation to attain the goal. The former involves evaluation while the latter is devoid of any evaluative quality. Kluckhohn urges that values be restricted to only those dispositions which involve some evaluative reaction.

Golightly (29) discusses Kluckhohn's definition of values and observes that the elements of wish and appraisal are intricately united in value. He (29) stresses that, both reason and feeling must be included in any definition of value if it is to adequately serve the descriptive and explanatory purposes. As value always involves effect, Kluckhohn et al. point out that cathexis and value are inevitably related though they seldom coincide. They (47, p. 399) state:

The reason that cathexis and value seldom coincide completely is that a cathexis is ordinarily a short-term and narrow response, where as value implies a broader and long-term view. A cathexis is an impulse; a value or values restrain or canalize impulses in terms of wider and more perduring goals.

Values thus in their thinking lay the boundary line for selective behavior in accord with the total action system be it personal or social-cultural.

Kilby (44), though agreeing with Kluckhohn et al., thinks their definition of values is not inclusive enough and suggests three different types of values. Kilby's Type A clearly agrees with Kluckhohn et al's definition of 'the desirable'. Kilby's Type B values refer to automatic values which are group values in character and are internalized by the individuals and therefore are devoid of any real choice making. His Type C values refer to the valuing of some object or goal that is the valence of the activity or object. This type of value though not a guiding standard of judgement, nevertheless, involves the act of valuing when choices must be made between goals. Adler (1) has classified values into four types. He sees values as: (1) absolutes, (2) inherent in objects, (3) present within man and (4) identical with actual behavior of man. Adler places the first classification of values in the category of noumena, thereby indicating their inaccessibility to scientific inquiry. His second class of values as inherent in objects, he considers can never be discovered apart from human behavior, thereby pointing to the futility of observing objects for uncovering values. Adler's beliefs that his third classification of values as present within man makes them inaccessible to empirical testing as internal states are not directly observable. Adler, thereby concludes that his fourth classification of values as equated with action is the only meaningful one which would render values amenable to empirical testing.

Catton (16) and Scott (87) have both criticized Adler's (1) views of considering values as synonymous with action. Scott indicates that the equating of values with action would require the designation of

every single human act by a different value. This would lead to a meaningless proliferation of terminology. Besides, no theory of value would ever be possible as there would be no way of subsuming empirical phenomena into recurring categories. Both Catton (16) and Scott (87) suggest that it would be more logical and useful, both theoretically and empirically, to define values in terms of inferential or hypothetical constructs rather than as human action. These constructs would facilitate inferences from patterned choices of persons or groups, thus lending as Scott (87, p. 8) states, "...economy to the conceptualization of what is, in the raw, an exceedingly complex set of events, virtually incomprehensible to the most superior intellect". Hypothetical constructs would thus afford parsimony to the study of values and make it feasible to classify recurring phenomena under one theory.

Morris (69) proposes that axiology, that is, the science of values can be defined as the science of preferential behavior or to what Dewey (21) refers to as selection-rejection behavior. Morris (70) categorizes values into three types, 1) operative values, 2) conceived values and 3) object values. He defines operative values as those which refer to the desire of people to prefer one kind of object rather than another. These values according to him can be found through a study of preferences among non-symbolic desiderata. Morris conceived values as he explains them are based on a person's anticipation of the outcome of alternative behavior. These values can be studied through preferences of conceptually indicated objects, that is, through an analysis of preferences among

symbolic desiderata. The third classification of Morris' values, namely object values, are values which ought to be preferred regardless of an individual's actual or anticipatory preference. Morris does not suggest any operational definition for his third category, which is perhaps indicative of the fact that he relegates them as being inaccessible to scientific treatment.

Catton (16) is of the view that Adler's (1) third classification of values are equivalent to Morris' (70) second, that is, the conceived values. Catton indicates that the apparent researchability of the conceived values as operationally defined by Morris, renders Adler's contention that his Type three values are inaccessible to empirical testing totally unacceptable. Catton (16, p. 312) observes that, "...if we are willing to adopt the general position that preferential behavior, both symbolic and non-symbolic, can be observed, recorded and studied, then Adler's contention seems unwarranted."

#### Values and closely related concepts

A lot of confusion about the value concept stems from its likeness to related terms such as beliefs, attitudes, goals, preferences, needs and norms. As Kilby (44, p. 94) points out, "The fact is that all are of the same general class, being enduring dispositions which share common features, and overlap each other." Therefore in order to clarify a concept, it is not sufficient to just define it but also to distinguish it from closely related concepts. Though effort at sharp differentiation

is pointless, nevertheless it seems that in order to apprehend as best as possible what the value concept means and what it does not mean, an attempt at differentiation between values and related terms seems warranted.

Values and beliefs      Values and beliefs though closely related are not identical. Beliefs are either right or wrong, valid or invalid, they either exist or don't, they do not have the connotation of good or bad. Values on the other hand are on a continuum and not on an 'all' or 'none' basis. A belief has existential reference, it is a conviction that something is real. For example, an American may believe in the reincarnation theory of the Indians from the Orient, but this does not indicate whether immortality is for him a positive or a negative value. Kluckhohn et al. (47, p. 432) sum up the difference between belief and value by saying, "Belief refers primarily to the categories, 'true' and 'false'; 'correct' and 'incorrect'. Value refers primarily to 'good' and 'bad', 'right' and 'wrong'".

Values and attitudes      Thurstone and Chave (92, p. 607), define attitudes as, "...sum total of a man's inclinations and feelings, prejudices or biases, preconceived notions, ideas, fears, threats and convictions about any specific topic." How an individual will react to a specific situation by and large will depend on his attitude. Krech et al. (49) refer to attitude as an enduring system of positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to a social object. Attitudes like values are thus based on experience with

an object or situation. Allport as cited in Klineberg (45) suggests that an attitude is an organizing principle and exerts a directive or dynamic influence upon the individual's response to an object or situation. Although in these respects values and attitudes can be equated, there nevertheless exists a difference between the two. An attitude may refer only to what is 'desired' while a value is what is 'desirable'. An important characteristic however, which distinguished values from attitudes is the hierarchical quality of the former. Values can be ranked but attitudes do not indicate a hierarchical relationship. One may be favorably inclined towards "privacy", but this favorable attitude toward privacy does not indicate how it could hierarchically compare with, say, "convenience". On the other hand, one can say that he values privacy in a home more than convenience.

Though values and attitudes are quite similar, values have wider dimensions than attitudes. As Nye (75, p. 2) points out "...value largely includes the context of attitude but adds the hierarchical arrangement of properties into those that are more desired or more disliked."

Values and goals      A number of writers equate values with goals. Lasswell and Kaplan (52) consider values and goals as synonymous. They (52, p. 17) say,

...a desired event...a goal event. That x values y means that x acts so as to bring about the consummation of y. The act of valuing we call 'valuation', and we speak of the object or situation desired as value.

Kluckhohn et al. (47) disagree with this approach as this reduces values to "things desired" rather than to the "desirable".

Jacob and Flink (41) also object to the Laswell and Kaplan (52) equation of values with goals on the basis that it leaves the term value very broad, and ambiguous. They say (41, p. 20):

The broad equation of values with all goals seem to oblivate initial distinctions between these goals which, at one extreme, reflect primarily the impulsive demands of the biological organisms whose satisfactions are essential to the survival of the organisms...and at the other, goals which have been shaped by layers upon layers of learned standards of social propriety - as well as those influenced by normative criteria more particularly to the individual.

Catton (16), Kluckhohn et al. (47) and Williams (101) all note that values are not the concrete goal but rather are criteria by which goals are chosen. Williams (101, p. 61) states, "Values are criteria for deciding what we should want. What these standards are is not immediately given to use by knowing the goals men seek,...."

Values are thus guiding principles by which goals are selected and not concrete goals themselves. For instance, if one holds the housing values of comfort then this housing value of comfort will be the criterion which families will use in formulating their short and long term goals of saving money to realize their housing values of comfort. It seems that in order to clarify and understand the value concept, it is better not to equate it with goals, because by doing so it further adds to the ambiguity of the concept rather than subtracting from it.

Values and preferences      Some writers tend to equate values and preferences. Warland (94, p. 22) quotes Angell's definition of values as "...lasting preferences for the way in which one's social world is



structured and operated." Morris (69) postulates the fruitfulness of conceiving axiology, as the science of preferential behavior. Williams (100, p. 379) states that, "...a belief is a conviction about something real whereas a value is a preference..." Hart (37), on the other hand, distinguishes between values and preferences. He points out that preferences operate both at the human and subhuman level, whereas, values are restricted to human beings. It is reason, which is man's prerogative, that makes the distinction between preference and choice or deliberation apparent. Hart admits that some values arise from biological necessities which thus determine primary preferences. But he (37, p. 34) hastens to add, "To see mere psychic effects in values, means to confuse selection with construing."

Scott (87, p. 4) states, "A value...does not simply represent something that is preferred, but something the person feels ought to be preferred."

Jacob and Flink (41) appear to agree with Hart (37) and question the equation of values and preferences. They are of the view that in the interest of empirical research and conceptual clarity a distinction is warranted between the concepts of values and preferences.

Preferences are usually based on people's experiences and are not necessarily justified on the basis of any norms. They may change much more readily than values, the latter being more lasting and enduring. From the foregoing discussion of values and preferences, it seems more fruitful to distinguish between these two concepts, both at the theoretical and empirical level, instead of considering them as synonymous.

Values and needs      The Cornell group as quoted in Kluckhohn et al.

(47, p. 427) bring out the distinction between values and needs. They say:

Values...are not identical with particular segmental "needs" of the organism; specific physiological deprivations may be relevant to a great many values, but do not themselves constitute value-phenomena....To put it another way, "value" can only become actualized of "need" but it is not thereby identified with need....

Values are much more complex than needs as they involve cognition, approval, choice making and affect. Lee (53) refers to needs in a broad sense to express the stimulus-response phrasing of behavior. She sees needs and values not as synonymous, but rather the former arising out of the basic values of society.

Maslow (62) observes that there are both lower and higher order needs. Though the former do not involve the value element, he is of the view that all values are not determined wholly by arbitrary extra-organismic forces. Values also involve intrinsic claims is his argument.

Though there is a close relation between needs and values, Kluckhohn et al. (47, p. 429) remark:

...it is important to note that the needs satisfied by orienting behavior in terms of a value is of an importantly different sort from that obtained from eating a good meal.

From the foregoing discussion it seems apparent that the distinction between values and needs is very fine. The difference may even seem non-existent in certain situations but the orientation of behavior in terms of needs and values is different. In the interest of conceptual and empirical clarity it therefore seems imperative to recognize the distinction between needs and values.

Values and motives Many writers use the terms values and motives as if they were synonymous. Scott (87) brings out the distinction between the two in terms of that which is desired (motive) and that which is deemed desirable (value). He (87, p. 11) states:

A motive refers to a phenomenologically optional goal and has the subjective counterpart: 'I want to act this way.' A value refers to a phenomenologically absolute goal and has the subjective counterpart: 'I ought to act this way'.

An individual with a value wants other people to share in the goal-oriented activity; on the other hand a person with a non-value motive like desire for food or power, may not necessarily feel a desire for such co-orientation, on the contrary he may even wish that others not share his goal (87).

Values and norms Values though closely related conceptually and empirically to norms are not identical with them. As Williams (102, p. 20) observes, "...norms are the more specific, concrete, situation bound specifications; values are the criteria by which norms themselves may be and are judged." A norm is a pattern of expected behavior, deviations from which can result in sanctions against the individuals, while values per se are not subject to sanctions. Norms are expected behavior patterns, while values are mental phenomena (75).

#### Summarization of the value concept

The foregoing discussions about the value concept bear ample testimony of the ambiguity and elusiveness which is associated with values. The wide variations in the conception, interpretation and definition of the term by different writers, makes it virtually impossible to consolidate

their views in any one definition which can be universally used without criticisms and conflict. However an attempt is made below to summarize the manner in which the value concept is interpreted for the purposes of this dissertation:

1. Values are a legitimate subject of scientific investigation and amenable to scientific inquiry.
2. Values are important, they are generic concepts of fundamental significance in the understanding of human behavior be it at the individual, familial or societal level.
3. Values have a conceptual element, they are more than impulses, emotions, preferences, cathexis, reflexes or beliefs.
4. Values are not concrete goals of action but can be viewed as possible criteria by which goals may be chosen.
5. Values are distinct from attitudes; the former may provide a basis for an end which is considered desirable in itself, while the latter refer to an object that is liked as disliked because of its perceived instrumentality to a desirable end (87).
6. Values have an evaluative quality, they are "the desirable", the guiding standard, rather than "the desired", the motivation to attain the goal (47).
7. The values concept is most meaningful if it is viewed as an inferential or hypothetical construct.
8. Values are enduring dispositions and influence human conduct. Values, as Kilby (44, p. 194) states, "supply the land marks and the sign posts which point the way through life."

9. Values do not have the property of universality. Values vary from individual to individual, but from a sociological standpoint, the variance is meaningful in terms of situational and social characteristics of groups.
  10. Values do not operate singly. Numerous values and value systems and their interactions form a configuration in which the individual finds his position. For any value there is always a continuum on which the individual locates himself at a suitable point.
- Kluckhohn's et al. (47) definition of values as amended by Catton (16, p. 312) reads, "A value is a conception of the desirable which is implied by a set of preferential responses to symbolic 'desiderata'", seems to come closest to a definition of value as intended in the present study. This definition suggests the operationalizing of what Morris (70) called conceived values through an analysis of preferences among symbolic desiderata.

#### Types of values

Sociological literature abounds with varied and elaborate taxonomies of values (29, 44, 47, 78). The utility of such taxonomies for empirical research is quite limited, therefore, no attempt will be made here to enumerate or discuss the various taxonomies. However, some of the value typologies which have been utilized in this study are mentioned below:

1. Personal values: These are values that an individual holds and not something held collectively by a group. Golightly (29, p. 240) refers to personal value as, "...a private form of a group value.... It is not entirely unique to one personality but has its own special shadings, emphases, and interpretations."

2. Explicit values: These are values which can be verbalized by the respondent, that is, readily expressed rather than inferred from recurrent trends in behavior.
3. Dominant values: These are values which are primarily or outstandingly held by an individual.
4. Conceived values: These are values which are based on a person's anticipation of the outcome of alternative choices made.

#### Housing values in general

As indicated earlier, the concept of value has relevance in almost all aspects of living. A part of this dissertation is an attempt to measure some housing values and how they relate to housing satisfaction and certain specified situational characteristics. The thesis is that the basis of housing satisfaction of people is in part dependent upon the values they hold. As Cutler (20, p. 5) observes:

The values in daily living which consciously or unconsciously, become of great importance to the individual, exert a magnetic power which draws the individual toward situations which are most likely to yield positive satisfactions for him.

Porter (79, p. 13) indicates that one of the ways of analyzing the physical features of a house in relation to relatively permanent characteristics of individuals is in terms of housing values. Such an analysis in terms of housing values is reported in a pilot study done by Beyer et al. (8). This study revealed that the housing values of the 1,032 families interviewed in Buffalo, New York could be categorized into three broad categories, namely, family, economy and personal housing value groups. In another study done by Beyer (6), nine housing values were

selected. A value scale was developed for each of the values and administered to 1,760 subjects to assess their value orientations. The results of the study indicated that the nine housing values clustered into two groupings.

#### Definition and Discussion of the Satisfaction Concept

Satisfaction is another key concept for the present study. It is recognized that satisfaction is more readily perceived than defined, thus making an explanation of the concept difficult. However, this does not preclude the possibility of its definition. The concept will thus be first discussed in general terms, following this a conceptual model will be evolved depicting the relation between housing values and housing satisfactions. Thereafter the first general hypothesis will be stated.

#### Concept of satisfaction and housing satisfaction in general

Webster's New International Dictionary (96, p. 2220) defines satisfaction as "the relatively quiescent condition resulting from the fulfillment of a need or desire." Aiken (4, p. 40) refers to satisfaction as an activity which he states as being, "generally free from irreconcilable conflict, free from frustration, free from want in the merely privative sense..." Schorr (86, p. 15) defines satisfaction, "...as the absence of complaint, when opportunity for complaint is provided, or as an explicit statement that the person likes his housing." Housing satisfaction can thus be considered as a state of contentment with one's living unit. One can be satisfied with certain aspects of the house and not

others (81). Therefore in the present study, housing satisfaction will be viewed in terms of entire house satisfaction as well as satisfaction with specific aspects of the house.

#### Relationship of housing values and housing satisfactions

Cottam (18, p. 45) observes that, "Housing satisfactions depend upon both the comfort provided and the prestige that one thinks comes from living in a particular house." In other words, Cottam is indicating that housing satisfactions depend upon the housing values which one holds. Cutler (20, p. 72) states:

It would seem logical that if the values at the top of one's functional pattern are provided for satisfactorily by a home, that home should satisfy the individual and he would rate his home very satisfactory. In like manner, if the values at the top of the functional pattern are inadequately met in the home situation, the individual will not be satisfied with his home.

Values thus can be viewed as possessing the capacity for yielding satisfaction (1, 25). An attempt has been made to summarize and integrate this discussion conceptually in Figure 2. Values, it is recognized, enter into every stage of social action, be it that of short or long term goal planning, decision making, or the stage of the actual mobilization of resources. However, as discussed earlier in the value section of this chapter, the primary importance of values is one of providing criteria for goal formation. It is, nevertheless, recognized that though values are important for goal formation, the latter may be strongly influenced by available means. Figure 2, however, depicts the housing values of individuals as being considered the fundamental criteria in



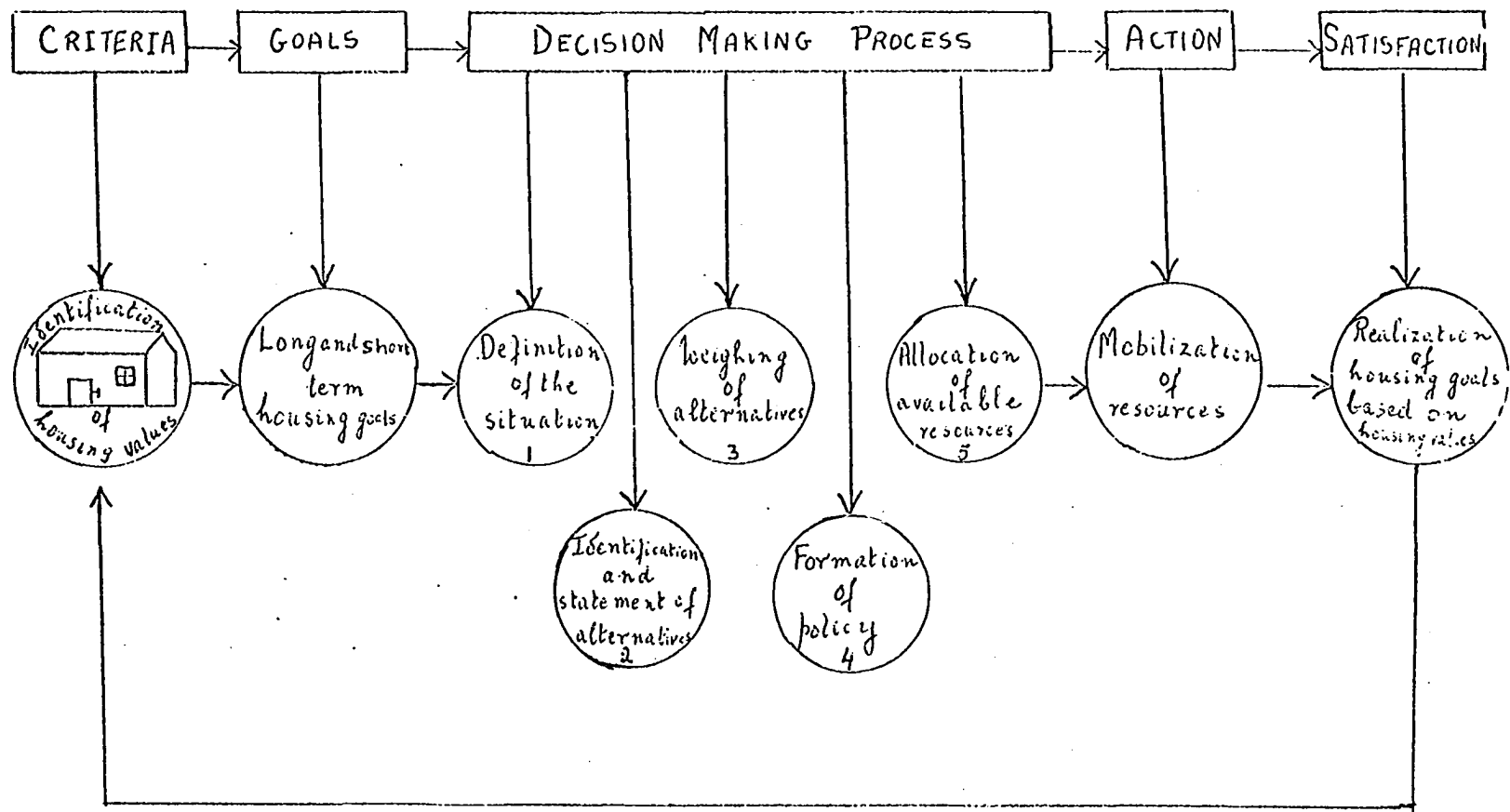


Figure 2. Housing values and housing satisfaction

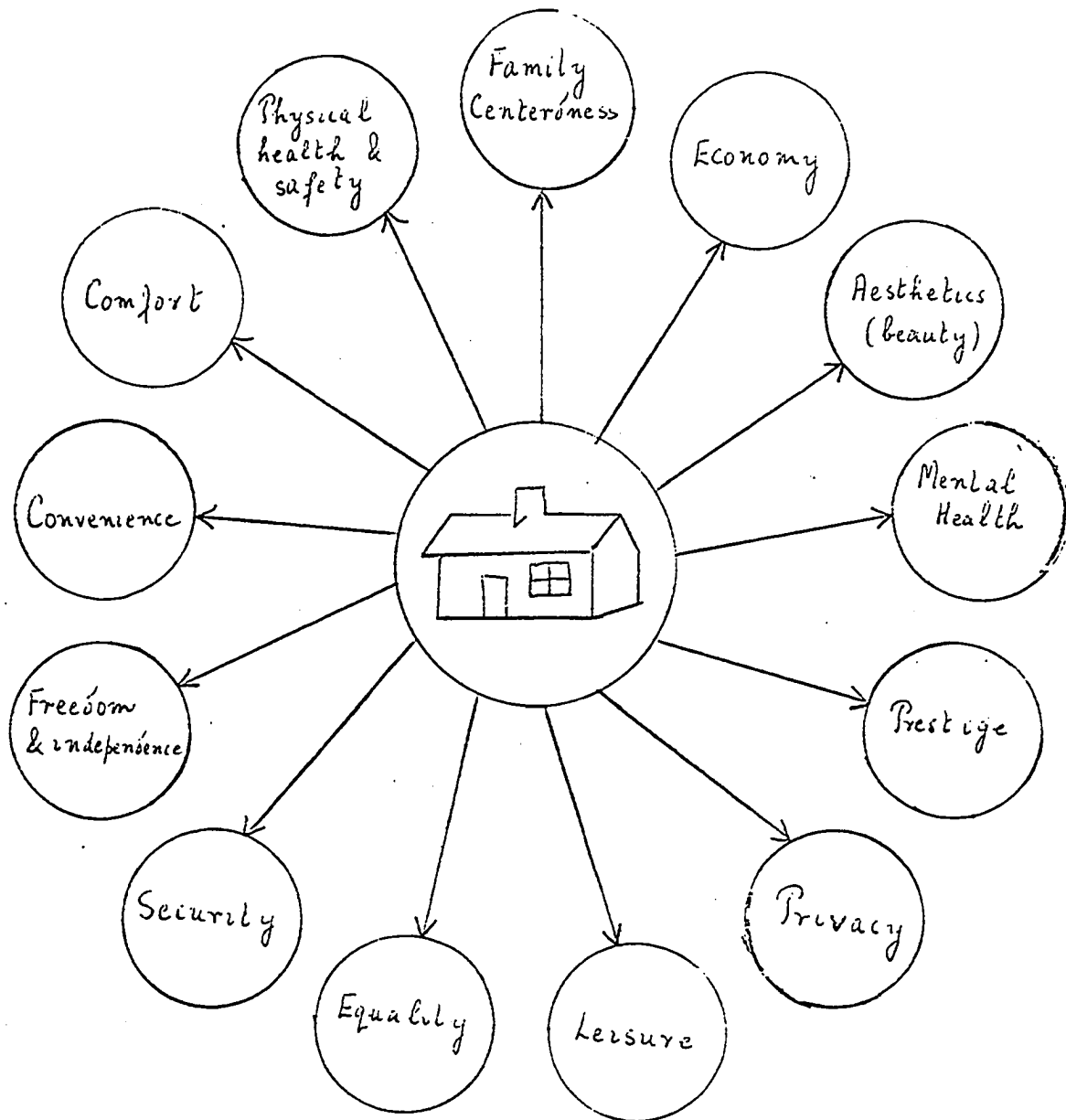


Figure 3. Personal values sought by families through housing (56)

the planning of short and long term housing goals. It is proposed that, if in turn, these goals guide the various stages of the decision-making process as well as the overt action of providing such houses, then the ensuing houses would yield satisfaction to the occupants (3). In other words, individuals will be satisfied with the living units provided to them, if their housing values formed the basis of the construction of these units. Based on the theoretical and schematic presentation of the contended relationship between housing values and housing satisfaction, the first general hypothesis is now stated.

General Hypothesis 1: Satisfaction of individuals with the specified aspects of their housing is associated with their specified housing values.

In order to state the sub-hypotheses ensuing from the above general hypothesis, the value concept will first be explicated into its specific dimensions.

#### Dimensions of the Housing Value Concept and Derivation of Relevant Hypotheses

To identify some psycho-social values for the present study, fifteen personal values suggested by Liston (56) in Figure 3 were examined. Six values, namely those of familism, economy, aesthetics, privacy, convenience and mental health were selected from her list. For the purpose of the present study, the value of privacy however was divided into external and internal privacy and the value of convenience was considered only in terms of internal convenience. As each of the seven dimensions

of the housing values selected may convey different meanings to different readers, a brief description of each value dimension is given followed by the derivation of sub-general hypotheses of General Hypothesis 1. It is, however, pointed out that all dimensions of values are not hypothesized to be related to satisfaction, therefore, sub-hypotheses are not derived for all value dimensions.

### Familism

It is believed that an individual with this value, sees the family as a strongly knit unit. Housing decisions and evaluations of such decisions are made in terms of how they affect and influence the family as a whole. Family considerations come before personal or outside considerations. In other words the family per se is the unit of concern or focal point which guides any course of action taken. Beyer (6, p. 8) says this value is apparent in individuals when their, "Allegiance and loyalty will be given to the family before outside individuals and groups." According to Burgess and Locke (13), ideal-typical familism refers to strong in-group feelings, emphasis on family goals, common property, mutual support and the desire to pursue the perpetuation of the family.

### Economy

The value of economy here refers to only its monetary aspects. Economy is recognized as a value when individuals believe in thrifty use of money resources. They tend to practice frugality in expenditure. In their decision making processes, individuals who hold this value high, always aim at an efficient and sparing use of the money available for

the end proposed. Each alternate course of action being weighed against the other in terms of money value. Economic individuals are willing to do without certain things because of their heavy economic bias. They are characteristically men of practical affairs and highly concerned with what is useful.

### Aesthetics

It is considered that a person who holds this value will be appreciative of beauty. He would have a keen desire for a well-kept, neat and orderly physical environment both inside and outside the house. He would be responsive to good workmanship, form, simplicity and harmony in architecture. It is assumed that the housing satisfaction of an individual holding the value of aesthetics will depend on how well his living unit meets his artistic taste. In other words how satisfied an individual is with the aesthetic aspects of his house will depend upon the extent of the importance of this aesthetic value to him. Based on this reasoning, the following sub-general hypothesis is proposed:

Sub-general Hypothesis 1-1: Satisfaction of individuals with the aesthetic aspects of their house is associated with their value of aesthetics.

### External privacy

It is expected that a person holding this value would not like to be under the direct scrutiny of strangers and passerbys. He would not like to be observed except, by choice alone, by neighbors and outsiders

when engaging in activities at home. If an individual values external privacy in a house, then his housing satisfaction with the external privacy aspects of the house will depend upon how well the house fulfills his value of external privacy. Based on this, the following hypothesis is derived.

Sub-general Hypothesis 1-2: Satisfaction of individuals with the external privacy aspects of their house is associated with their housing value of external privacy.

#### Internal privacy

An individual holding this value, it is assumed would not like to be under direct observation of family members or visitors at all times. Such an individual would prefer good traffic patterns among rooms. It would be important for him to have a place or corner of his own in the house, uninterrupted by others if he so desires. If the house does not provide internal privacy to the individual who values it, his satisfaction with the house will be far less than if the house provided the internal privacy aspects. This leads to the following hypothesis:

Sub-general Hypothesis 1-3: Satisfaction of individuals with the internal privacy aspects of their house is associated with their housing value of internal privacy.

#### Mental health

Mental health is a hard concept to define, as Ryan (85, p. 417) observes, "The difficulty grows from a lack...of an operationally useful

description of what is commonly understood to constitute mental health." However, for the purpose of this study it is assumed that an individual holding this value aims at minimizing frustration and anxiety. Such an individual looks for ways of providing serenity and orderliness. His total emotional and intellectual response towards his environment is geared towards attaining peace of mind. He either regulates and manipulates his environment in order to facilitate internal tranquillity and satisfaction, or failing that, he adapts and adjusts to the prevailing environment. His aim is to avoid turmoil, minimize insecurity, reduce inner conflicts and prevent dissatisfaction. Beyer (6, p. 15) says that a person holding this value "...will be strongly inclined to think of himself before others." Such a person appreciates anything that encourages repose, serenity or complacency and will look for those in his living unit. However, if his living unit does not provide features which will meet the individual's value of mental health, then satisfaction with such a unit will leave much to be desired. On the bases of this reasoning the following hypothesis is proposed:

Sub-general Hypothesis 1-4: Satisfaction of individuals with the mental health aspects of their house is associated with their housing value of mental health.

#### Internal convenience

It is considered that an individual holding this value appreciates an environment which facilitates performing of activities inside the house. He seeks devices and services which will be conducive to a comfortable realization of chores and household duties. He will make efforts

to ease trouble and save unnecessary steps in task performance. Such a person will appreciate anything that alleviates discomfort, frees constraint and assures ease. It therefore follows that an individual who holds this value of internal convenience will be satisfied with the house only if its features will allow for the realization of this value. This reasoning then leads to the following hypothesis:

Sub-general Hypothesis 1-5: Satisfaction of individuals with the internal convenience aspects of their house is associated with their housing value of internal convenience.

Having discussed the concept of values and specifically housing values and housing satisfactions, attention will now turn to the concept of situational characteristics.

#### Definition and Discussion of Situational Characteristics and Derivation of Relevant Hypotheses

The third and final general concept to be discussed is that of situational characteristics. The concept will first be discussed in general terms followed by the statement of the second and third general hypotheses. Next, the specific situational characteristics to be included in the study will be described and the ensuing sub-general and sub-hypotheses derived concerning the relationship between the specified situational characteristics and housing values and housing satisfactions. However, it is pointed out that all the seven housing values delineated for this study and the various housing satisfaction aspects may not be logically related to all the situational characteristics. Therefore,



only those relationships which are found to be logically related will be of concern when deriving the sub-general and sub-hypotheses.

#### Situational characteristics

These are defined here as all those characteristics external to the individual which may have an influence on their housing values and housing satisfactions. In a study done by Cottam (18) housing satisfaction was closely related to income, family size and composition and age of family head. Montgomery, Sutker and Nygren (68) also report that age, family life cycle and socio-economic status are important characteristics associated with housing satisfaction. Cutler (20) found that housing values are related to socio-economic class. Some of the indices she used for socio-economic class were education, income and occupation. Beyer (8) also reported that basic value orientations vary from one social group to another, the important social characteristics responsible for the value differential being size of household, education, age, income and occupation.

From the foregoing review of past studies, it seems logical to hypothesize that housing values and housing satisfaction are associated with certain situational characteristics, thus leading to the statement of the second and third general hypotheses:

General Hypothesis 2: Specified housing values of individuals are associated with some of their situational characteristics.

General Hypothesis 3: Satisfactions of individuals with specified aspects of their housing are associated with some of their situational characteristics.

Since situational characteristics is an inclusive concept, this dissertation will not attempt to study all of its possible ramifications and implications. The following five sub-concepts are subsumed under the general concept of situational characteristics in this study: (1) age (2) income (3) education (4) family size and composition (5) employment status (Figure 4).

Age Chronological age is a situational characteristic in the sense that it is external to the individual. It is an influential factor in the development of perception and could thus tend to affect the housing satisfaction of respondents. It can be suggested that if a respondent is younger in age she would tend to be more satisfied with her housing than a person who is older. The reasoning is that the older person, having had the benefit of years may have higher expectations and therefore be less satisfied with the given housing. It is however, pointed out that the foregoing supposition has relevance for the present study where most respondents are under thirty-five years of age, thereby constituting a narrow age range. If the age range is wide, as Cottam (18) reported, the greatest housing satisfaction occurred in the older age groupings, that is, people who had retired and did not wish for additional housing improvement.

Using the same reasoning that age plays a role in the development of perception, it can be hypothesized that there would also be an association between age and housing values of individuals. The foregoing discussion leads to the following sub-general and sub-hypothesis.

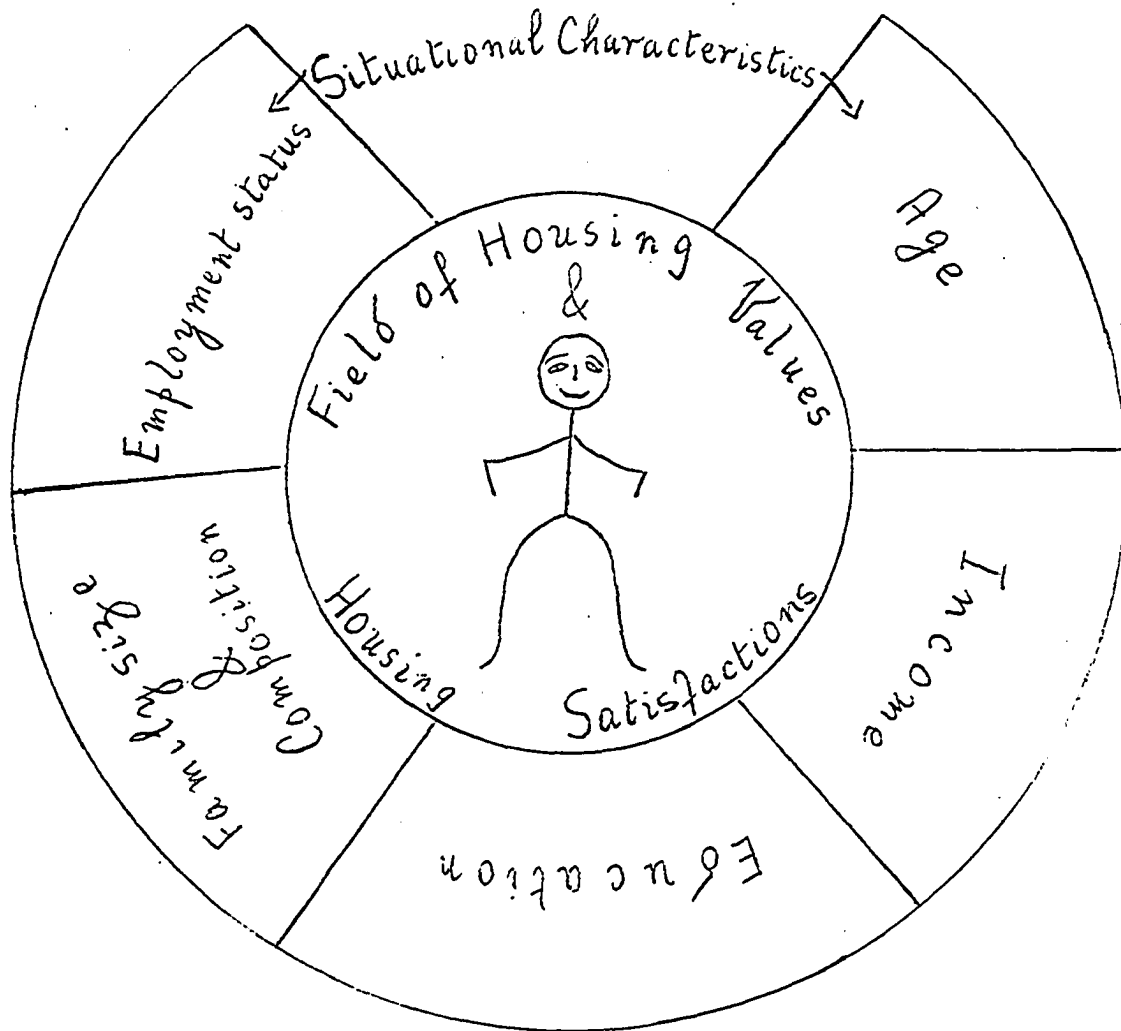


Figure 4. Conceptual framework for the analysis of the association between situational characteristics and housing values and housing satisfactions

Sub-general Hypothesis 2-1: Specified housing values of individuals are associated with their age.

Sub-Hypothesis<sup>1</sup> 2-1-1: There will be a relationship between the value of familism and age.

S.H. 2-1-2: There will be a relationship between the value of aesthetics and age.

S.H. 2-1-3: There will be a relationship between the value of economy and age.

S.H. 2-1-4: There will be a relationship between the value of external privacy and age.

S.H. 2-1-5: There will be a relationship between the value of internal privacy and age.

S.H. 2-1-6: There will be a relationship between the value of mental health and age.

S.H. 2-1-7: There will be a relationship between the value of internal convenience and age.

Sub-general Hypothesis 3-1: Satisfaction of individuals with their entire house is associated with some of their situational characteristics.

S.H. 3-1-1: There will be a relationship between entire house satisfaction and age.

Sub-general Hypothesis 3-2: Satisfaction with certain selected physical aspects of the house is associated with the situational characteristic of age.

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<sup>1</sup> Sub-hypothesis will hereafter be referred to as S.H.

S.H. 3-2-1: There will be a relationship between the satisfaction with the adequacy of the number of rooms in the house and age.

S.H. 3-2-2: There will be a relationship between the satisfaction with the size of bedrooms and age.

S.H. 3-2-3: There will be a relationship between the satisfaction with the size of the living room and age.

Social class is a very useful dimension in understanding the housing values and housing satisfactions of individuals (8, 18, 20, 42, 68). It is a sub-culture within the broad culture of a society. As Gardner (28, p. 58) states,

While every individual is subjected to the more general patterns of the total culture and we find many threads of behavior, of attitudes, of value systems, and moral codes which are common to the culture, there are variations within these limits that generally follow social class lines.

However, because of the homogenous nature of the present sample, the categorization of families by social class was not considered very meaningful. Instead it was decided to consider income and educational level, two of the important indicants of social class as separate influential characteristics in the housing values and housing satisfactions of the respondents.

Income      To get a more realistic estimate of a family's income, it would be desirable to consider both its money income and real income.<sup>1</sup>

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<sup>1</sup>Real income is defined as the inflow of goods and services to a family.

However, in the present study, concern is only with money income. It is well established that the values people hold vary by different social groups (6, 8). Income is one important factor in the classification of people into different social groups. It therefore follows that there would be an association between the housing values of individuals and their income. It is, recognized that families may have different demands on their money income due to differential family needs. Nevertheless it can generally be expected that people with higher income are more likely to be dissatisfied with their house if it does not meet their housing values than would people with lower income, the logic being that higher income families would more likely be able to afford a house that is more satisfying than the lower income families. On the basis of the foregoing discussion of the possibility of both housing values and housing satisfactions of individuals being associated with their income the following sub-general and sub-hypotheses are proposed:

Sub-general Hypothesis 2-2: Specified housing values of individuals are associated with their income.

S.H. 2-2-1: There will be a relationship between the value of aesthetics and income.

S.H. 2-2-2: There will be a relationship between the value of economy and income.

S.H. 2-2-3: There will be a relationship between the value of external privacy and income.

S.H. 2-2-5: There will be a relationship between the value of mental health and income.

S.H. 202-6: There will be a relationship between the value of internal inconvenience and income.

S.H. 3-1-2: There will be a relationship between entire house satisfaction and income.

Education Educational level like age can be considered as an important factor in an individual's conception of values and satisfactions. As Coward (19, p. 29) observes, "Part of the educational process is the development of perception..." Educational level is therefore quite likely to be associated with housing value orientations and satisfactions of respondents. On the basis of this rationale the following hypotheses are derived:

Sub-general Hypothesis 2-3: Specified housing values of individuals are associated with their education.

S.H. 2-3-1: There will be a relationship between the value of aesthetics and education.

S.H. 2-3-2: There will be a relationship between the value of economy and education.

S.H. 2-3-3: There will be a relationship between the value of external privacy and education.

S.H. 2-3-4: There will be a relationship between the value of internal privacy and education.

S.H. 2-3-5: There will be a relationship between the value of mental health and education.

S.H. 2-3-6: There will be a relationship between the value of internal convenience and education.

S.H. 3-1-3: There will be a relationship between entire house satisfaction and education.

#### Concept of family life cycle and family size, age and sex composition

The life cycle concept is a construct which categorizes the important stages in the life of an average family. It is a fruitful tool for conceptual analysis. In its earliest conceptualization the concept was essentially seen as an independent variable to explain certain kinds of family phenomena. The earliest use of the concept was as that of an explanatory variable in the analysis of level of living of families. Rowntree (84) advanced a theory of the life cycle of families pertaining to stages of poverty, relative poverty and second poverty. Sorokin et al. (89) focused on the changing family member constellation in the analysis of the economic life history of the rural peasant families. Bigelow (9) developed a more elaborate set of stages of family life cycle, he noted that periods of deficit financing and recovery in terms of balance between family income and expenditures were associated with the different stages of the life cycle of families. Duvall (23) is one of the principal persons associated with the family life cycle divisions. Using the significant age changes of the oldest child as the focal point, she delineated eight stages of the family life cycle. Rodgers (82) has



suggested twenty-four stages by considering the significant age changes not only of the oldest child but also of the youngest. Lansing and Morgan (51) using the age of the youngest child, developed a set of family life cycle stages for estimating the economic behavior of families at different stages in the life cycle. Currently the concept can be found classified in a number of ways in sociological literature. Blood (11) makes a plea for not freezing the stages prematurely. He is of the view that it would be more useful to test the effectiveness of alternative ways of categorizing families with children but reinforces the important significance, both theoretical and empirical, of the family life cycle categories. Lansing and Kish (50) found that the family life cycle categories have superior explanatory power to that of age categories. They (50, p. 518) state:

Advantages of the family life cycle over age probably can be shown for many economic, social, political and psychological variables...we believe that the life cycle should be adopted more widely as an independent variable to be used in place of or parallel to age.

Rodgers (82), like Lansing and Kish (50) found that both his schema of twenty-four stages and Duvall's (23) eight were superior to the age variable of the head in predicting economic behavior of the family.

The concept of family life cycle has also been fruitfully used in the arena of housing. Gutheim (34) related number and ages of children and ages of parents to the demands for space and equipment within the home. Winnick, in Foote et al. (26), while studying the expenditures for

housing discovered interesting differences within income groups, by family life-cycle stage. Abu-Lughod and Foley in Foote et al. (26) compared housing demands in terms of size of house, tenure status, mobility and locational preferences with stages of the family life cycle. In assessing housing satisfaction Montgomery, Sutker and Nygren (68) use a three-fold classification of the family life cycle advantageously.

The above discussion adequately reflects the important significance and superior explanatory powers of the life cycle concept. However, in the present study, the homogeneity of the sample in terms of ages of husbands and wives and family sizes restrict the categorization of the sample families into any meaningful life cycle stages. Nevertheless, it was recognized that mere classification of families by size alone would be far from satisfactory in determining the differential housing values and housing satisfactions of respondents. It was therefore decided to develop family size and composition compatability categories which would take into account not only the family size but the ages and sex of the family members as well. Such a categorization it was felt, would be much more meaningful in ascertaining differential housing values and housing satisfactions of respondents. Based on the above discussion the following hypotheses are derived:

Sub-general Hypothesis 2-4: There will be a relationship between specified housing values and family size and composition.

S.H. 2-4-1: There will be a relationship between the value of familism and family size and composition.

S.H. 2-4-2: There will be a relationship between the value of economy and family size and composition.

S.H. 2-4-3: There will be a relationship between the value of internal privacy and family size and composition.

S.H. 2-4-4: There will be a relationship between the value of mental health and family size and composition.

S.H. 2-4-5: There will be a relationship between the value of internal convenience and family size and composition.

Sub-general Hypothesis 3-3: Satisfaction with certain selected physical aspects of the house is associated with the situational characteristic of family size and composition.

S.H. 3-3-1: There will be a relationship between the satisfaction with the adequacy of number of rooms in the house and family size and composition.

S.H. 3-3-2: There will be a relationship between the satisfaction with the size of bedrooms and family size and composition.

S.H. 3-3-3: There will be a relationship between satisfaction with the size of the living room and family size and composition.

Employment status      This sub-concept of situational characteristics refers to the assessment of whether the respondents are employed outside the home or not and if so the duration of hours spent on the job. To the writer's knowledge, there has been no study where employment status of women has been related with their housing values and satisfactions.

However, a number of studies (12, 39, 40, 74) have been done which reflect that working and non-working wives tend to differ on a number of characteristics like family relations, informal interaction outside home, social roles, interests and personality factors, task participation, and activity control. It therefore seems logical to assume that there might be an association between certain housing values of individuals and their employment status. Based on this reasoning the following hypotheses are stated:

Sub-general Hypothesis 2-5: There will be a relationship between specified housing values and employment status.

S.H. 2-5-1: There will be a relationship between the value of economy and employment status.

S.H. 2-5-2: There will be a relationship between the value of internal convenience and employment status.

The general theoretical orientation, general hypotheses, sub-general hypotheses and sub-hypotheses have now been derived and stated. The next task is to develop operational measures for the concepts used in the hypotheses. This will be the core concern in the next chapter.

## METHOD AND PROCEDURE

This chapter will mainly focus on the methodological aspects of the study. In order to make the discussion more meaningful, this chapter is divided into four sections. The first section will present a brief description of the empirical setting of the study. The second section will focus on the data collection, field procedures and summary presentation of some selected sample characteristics. The third section will be concerned with what Carnap (14) refers to as the explication process. This will involve a detailed description of the construction of indices and the procedures used to operationalize the theoretical concepts developed in the previous chapter. The final section of this chapter will describe the statistical procedure used in the analysis of the data.

### Empirical Setting of the Study

Pammel Court, Hawthorn Court and University Village are the three types of University housing available for married students and staff at Iowa State University. The present study was conducted in University Village. The two main reasons for doing so were:

1. The apartments in University Village are the most recently built and the assumption is that they would be an improvement over the previous married student and staff apartments and therefore more satisfying to the tenants.

2. The University plans to expand the University Village and it is thereby assumed that the planning authorities may benefit from the results of this study in the expansion program.

### University Village

The University Village is located north of the Iowa State University campus. At the time that the study was conducted in February 1967, there were a total of 300 apartments constructed on 20 acres of land. Presently 200 apartments are under construction and there are plans for further expansion.

Out of the 300 apartments (Appendix A, Figure 5) which were occupied at the time of the study, 268 are Town House type apartments, 24 are two-bedroom apartments and eight are one-bedroom apartments. As it was desirable to include only those apartments with identical plans, the Town House apartments were selected for this study because of the greater number.

Town House apartments      A Town House apartment is a two-story unit with a private 12 foot by 14 foot front entrance court (Appendix A, Figure 10). The living room and kitchen are located on the ground floor and the two bedrooms and bathroom on the second floor. Storage closets are provided in the hallway (Appendix A, Figure 16) and the bedrooms.

The living room (Appendix A, Figures 6, 12, and 13) is 10 feet 6 inches by 13 feet and opens to a kitchen. The living room has a sliding glass door to the rear of the apartment. The kitchen (Appendix A,

Figure 6 and 11), which is 7 feet 2 inches by 9 feet 6 inches, has 10 feet 6 inches of counter, range and refrigerator space as well as space for the tenant's own washer. The entrance (Appendix A, Figure 6) adjacent to the kitchen is directly accessible to the stairs (Appendix A, Figure 14), kitchen and living room.

The two bedrooms (Appendix A, Figure 7), one 8 feet by 10 feet 4 inches (Appendix A, Figure 17) and the other 8 feet by 11 feet 2 inches are equipped with closet space. The bathroom (Appendix A, Figures 7 and 15) 5 feet by 7 feet is located between the two bedrooms.

The total net area of each Town House unit is 630 square feet. Gross area including the walls is 700 square feet. The units are designed in pairs (Appendix A, Figures 8 and 9) to use common plumbing and chimney stacks. One interior roof drain is provided for each two units.

Cabinets, stairs and doors are of wood, the floors are of concrete slab covered with asphalt tile. Interiors of the unit show exposed brick partition wall with all other partitions of gypsum board.

The exterior is 2 1/3 inches by 12 inches brick at the ground floor and is treated wood cedar shingles on a mansard roof at the second floor (Appendix A, Figures 8 and 9). All wood trim is cypress with copper at roof edge.

The rental rate per month for the apartment is \$80. The tenant pays for all utilities except water. The tenant also provides all of his furniture and draperies; only a refrigerator and gas range come with the unit.

## Data Collection and Field Procedures

Two of the most common methods used for data collection in survey studies are the interviews and the questionnaires. For the present study, personal interviews were considered most appropriate for the following two reasons: 1) To safeguard against non-returns and incomplete responses, and 2) because of the considered necessity of elucidating some questions by means of flash cards.

### Development of the interview instrument

The interview schedule (Appendix B) for obtaining the desired information was specifically designed for this study by the investigator. The schedule had a covering letter and three main sections. The main purposes of the covering letter were:

1. To introduce the interviewers to the respondent.
2. To put the respondents at ease and to elicit their cooperation.
3. To gain the confidence of the respondents, to assure them that the information obtained would be given confidential treatment.

The first section of the schedule contained questions to elicit background information such as family size and composition, education of husband and wife, ages of family members, family income, employment outside home and classification in the university.

The second section of the schedule contained seven housing value scales. The subjects were to respond to each of the 35 items of the seven scales by indicating their choice on a four point agreement-disagreement continuum card shown to them by the interviewer following



the reading of each value item (Appendix B).

This section also contained a forced choice question in which the respondents were required to indicate which to them were the first, second and third most important housing characteristics among the seven pictorially shown them on cards by the interviewer (Appendix B). The intention of this question was to check on the reliability of the subjects' responses given earlier on the value scales.

The third section of the schedule had questions pertaining to housing satisfaction. The questions focused on the various external and internal aspects of the respondents' residence. The respondents were to indicate their choice on a five point satisfaction-dissatisfaction continuum card shown them by the interviewer following the reading of each item pertaining to certain physical aspects of the house (Appendix B).

#### Obtaining the data

The eligibility requirement in addition to residing in Town House apartments for inclusion were:

1. Families in which the husband was a student.
2. Families in which both spouses were born in the United States.

The above two requisites were considered mandatory in order to control occupational and cultural differences. After the elimination process, 216 of the 268 families were qualified for the study. The subjects of the study were the wives in these 216 families.

Three interviewers were selected for the study. Two interviewers were graduate research assistants and the third a graduate nurse. All three had had previous experience in conducting interviews. Nevertheless

an instruction-training session was held with the interviewers by the chairman of the author's graduate committee and the author, in order to orient the interviewers as to the procedures to be followed in conducting the interviews.

The time duration of each interview was approximately one hour. All of the 216 respondents who qualified for inclusion in the study were contacted by the interviewers. There were no refusals. The interviewers were instructed to fill in a three point respondent cooperativeness and interestedness scale at the end of each interview. The percentage distribution of the respondents cooperativeness and interestedness are given in Table 1.

Table 1. Percentages of respondents as to cooperativeness and interestedness

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Very cooperative %	Somewhat cooperative %	Not cooperative %
93.05	6.49	.46
Very interested %	Somewhat interested %	Not interested %
79.62	18.55	1.83

---

Characteristics of the sample

Table 2 presents a summary of some selected characteristics of the 216 respondents. All the sample characteristics are for respondents residing at University Village during the Spring quarter of 1967.

Table 2. Selected characteristics of the sample

Selected characteristics	Number	Percentage	Range	Mean	Standard deviation
Family size: (no. of persons)			2 $\geq$ 5	2.53	.794
2	134	62.03			
3	56	25.93			
4	20	9.26			
5 or more	6	2.78			
Total	216	100.00			
Total money income: (in dollars)			3000 $\geq$ 6500	4749	2.64
Under 3000	6	2.78			
3000 to 3499	29	13.42			
3500 to 3999	20	9.26			
4000 to 4499	27	12.50			
4500 to 4999	19	8.80			
5000 to 5499	31	14.35			
5500 to 5999	19	8.80			
6000 to 6499	12	5.55			
6500 and above	53	24.54			
Total	216	100.00			
Age of wife (in years)			20 $\geq$ 29	21.5	1.36
20 and under	35	16.20			
21 to 22	76	35.18			
23 to 24	59	27.31			
25 to 26	27	12.50			
27 to 28	9	4.17			
29 and over	10	4.63			
Total	216	100.00			
Age of husband: (in years)			20 $\geq$ 29	23.5	1.41
20 and under	11	5.10			

Table 2. (Continued)

Selected characteristics	Number	Percentage	Range	Mean	Standard deviation
21 to 22	69	31.95			
23 to 24	64	29.63			
25 to 26	32	14.81			
27 to 28	22	10.18			
29 and over	18	8.33			
Total	216	100.00			
Employment of wife outside home: (in hours per week)			0 ≥ 40	10	1.42
0	70	32.41			
1 to 19	13	6.02			
20 to 39	15	6.94			
40 and more	118	54.63			
Total	216	100.00			
Husband's classification in university:			-	-	-
Freshman	5	2.31			
Sophomore	18	8.33			
Junior	19	8.80			
Senior	62	28.70			
Graduate	112	51.86			
Total	216	100.00			
Wife's education:			-	-	-
High school graduate	45	20.83			
Some college education	92	42.60			
College graduate	55	25.46			
Some graduate work	24	11.11			
Total	216	100.00			
Current university status of wife:			-	-	-
Currently enrolled	31	14.35			
Currently not enrolled	185	85.65			
Total	216	100.00			

The range and standard deviations of most of the characteristics are very narrow. This suggests that the respondents are relatively homogenous on many variables.

### Explication Process

Explication is the process by which theoretical concepts are transformed into empirical ones (14). The explication process is very crucial to any research endeavor. In order to render a theoretical hypothesis amenable to test, it must first be translated into observable terms, in other words it must be operationally defined. According to Goode and Hatt (31) the function of the operational definition is to more precisely define a theoretical concept by describing the operations which observe, measure and record a given phenomena. The operational definitions make the concepts more explicit to other researchers. These operationally defined meanings are joined to the theoretically designated meanings by means of epistemic correlations (73). Epistemic correlations are thus the bridges between the theoretical level and the empirical level.

Northrop (73, p. 123) states:

It is by means of epistemic correlations that unobservable entities and relations designated by concepts by postulation take on an operational meaning and thereby become capable of being put to an experimental test. Thus it is the relation of epistemic correlation which makes the operational meaning of a theoretical concept of science possible and which makes the operational definitions of scientific concepts important.

In the remainder of this section, a detailed description will be given of the procedures used in indices construction and operationalization of the theoretical concepts and the various epistemic correlations

will be explicitly stated.

### Indices, scales, validity and reliability

Indices are very important in scientific analysis. Kerlinger (43, p. 616) states, "An index is a number that is a composite of two or more other numbers." An index makes possible to arrive at some number from the measures of a series of observations made. Scales are one type of index. A scale is a set of items which are so constructed that numerals can be assigned by rule to whom the scale is administered.

In order to have dependability in measurement, the isomorphism of the measuring procedure must be given consideration, Kerlinger (43, p. 416) refers to isomorphism as "...identity or similarity of form". Thus the importance of validity comes into play. Zetterberg (106, p. 114) states, "Validity...is the extent to which an indicator corresponds to a definition." Guttman (35) has divided validity into internal and external validity. The former is logical in character and does not involve empirical studies while the latter is a test of a hypothesis.

In this dissertation internal validity will be examined in terms of content validation while external validity will be looked into in terms of construct validation. Content validation as Kerlinger (43) indicates is basically judgemental. It can be done alone or by a panel of judges, each item of the scale being weighed and assessed in terms of its presumed relevance and representativeness to the concept being measured. Construct validation helps to validate not only the test but the theory behind the test as well. Kerlinger (43, p. 449) states:

The significant point about construct validity, that which sets it apart from other types of validity, is its preoccupation with theory, theoretical constructs, and scientific empirical inquiry involving the testing of hypothesized relations.

One of the refined methods of studying construct validation is factor analysis. This technique involves the reduction of a large number of variables to a small number. Blalock (10, p. 383) says:

Underlying the use of factor analysis is the notion that if we have a large number of indices or variables which are inter-correlated, these interrelationships may be due to the presence of one or more underlying variables or factors which are related to the indices to varying degrees....By examining the intercorrelations among indices we may be able to make inferences as to the correlations of each index with the common factor if this factor could actually be measured.

It would have been desirable to use factor analysis as a means of checking the construct validity. However, due to certain limiting factors a less refined technique of correlating items with total scores was resorted to instead.

A necessary prerequisite for validity is reliability. If instruments are not reliable then they lack validity too. Kerlinger (43, p. 430) defines reliability as "...the accuracy or precision of a measuring instrument." Zetterberg (106, p. 123) refers to it as "...the extent to which an indicator renders unambiguous readings." Reliability as indicated by Zetterberg (106) involves at least four different measures, namely constancy, objectivity, precision and congruency. In the scales constructed in the present study the concern will primarily be with congruency, that is, the extent to which several indicators measure the same thing.

### Value scales

Values per se have not been the object of much scientific investigation. The Vernon, Allport and Lindzey Value scale (93) is one of the few well known commercially available scales. This scale was designed to empirically validate Spranger's (90) six types of men, namely, the theoretical, the economic, the aesthetic, the social, the political and the religious. As far as the author has been able to determine there are no commercially available housing value scales. Therefore, for the present study, the seven housing values mentioned in the last chapter are operationalized by seven multi-item scales. Among the various techniques available for scale construction, the Thurstone and Chave (92) technique and the Likert (55) technique are well known. In the former technique, the distance between the statements of the scale is theoretically equal. Each statement is assigned a scale value, and the scale value as Kerlinger (43, p. 485) states, "...indicates the strength of attitude of an agreement response to the item." All the statements in the scale are ordered and they differ in scale value, these scale values are arrived at by scaling procedures (43).

In the Likert type scale, also known as the summated rating scale, all of the statements in the scale are considered of approximately equal strength and measuring the hypothesized dimension of the concept under consideration. Subjects respond to each of the statements with degrees of intensity.

Both these techniques have their merits and demerits. The Thurstone-Chave (92) technique though it makes use of objective judgement in the



selection of items is very time consuming and requires a relatively large number of items and judges to start with. The Likert (55) or the summated rating technique obviates these difficulties, but its main shortcomings lie in treating all items as being of equal importance and in the problem of an acquiescence or nonacquiescence response set. However, in spite of these weaknesses, Kerlinger (43, p. 487) points out:

...the summated rating scale seems to be the most useful in behavioral research. It is easier to develop, and...yields about the same results as the more laboriously constructed, equal-appearing interval scale. Used with care and knowledge of its weaknesses, summated rating scales can be adapted to many needs of behavioral researchers.

Therefore, the summated rating technique was used in constructing the seven multi-item value scales for the present study.

Values cannot be measured directly, they are inferred from an individual's behavior. The three assumptions made in using the scaling techniques to measure values are the same as those used by Warland (94). These assumptions are:

1. Values can be known and such knowledge exists.
2. Knowledge of values is not very different from other scientific knowledge.
3. Values can be meaningfully measured and verbal statements within a given context can reflect individual values.

The reasons for the choice of multi-item scales are identical to those of Hobbs et al. (38, p. 82). They state:

The choice of scales as measures of the hypothesized value dimension was predicated on the increased reliability associated with multi-item scales as opposed to single item measures of values or attitudes.

The procedure used to develop each of the seven value scales is essentially the same. To minimize redundancy, the procedure will be outlined for the general case. The general procedure followed in the construction of the scales is very similar to that of Warland's (94).

The initial step of scale construction involved the preparation of a number of statements which were considered to represent the dimensions of the values being measured. The criteria used to construct the items for the scales were the ones suggested by Edwards (24). Next, in order to eliminate the irrelevant items, the statements were submitted to a panel of judges for their evaluations in terms of logical consistency and appropriateness. The eight judges were either faculty members or graduate students. Though it is desirable to have a larger number of judges, this small number is justifiable on the basis of the professional qualifications of the judges.

The final seven value scales incorporated in the interview schedule consisted of five items each. The subjects responded to each item on a five point continuum of strongly agree, agree, uncertain, disagree and strongly disagree to indicate the intensity of their agreement or disagreement. Uncertain was not presented as a possible alternative for the respondent in an attempt to prevent undue selection of that choice. The respondents were assigned the uncertain response only when they voluntarily indicated that they were unable to decide between agree and disagree.

Scoring of responses      Scoring of responses could be done by a number of methods, for example, by the equal interval method and Wolins and others' (104) scoring method. Because of the exploratory nature of the present study, the equal interval method of scoring was used because of its simple weighting procedure as contrasted with the Wolins' method of scoring.

Equal interval scoring method      In this method all items are scored positively, scores of equal intervals are awarded to all the items. In a positive item the strongly agree receives the highest score and the strongly disagree the lowest. Following is an example of the equal interval scoring technique for positive and negative items. For positive items:

Response:

	Strongly agree <u>1</u>	Agree <u>2</u>	Uncertain <u>3</u>	Disagree <u>4</u>	Strongly disagree <u>5</u>
Score:	5	4	3	2	1

For negative items:

Response:

	Strongly agree <u>1</u>	Agree <u>2</u>	Uncertain <u>3</u>	Disagree <u>4</u>	Strongly disagree <u>5</u>
Score:	1	2	3	4	5

Using this scoring method, total scores for the seven value scales were computed for all the 216 subjects on the basis of their responses to the value items.

An intercorrelation matrix was run for each of the seven scales. A correlation was obtained for each item with every other item within each scale and also for each item with its respective total score.

Conditions for additivity Wolins and MacKinney (195) have suggested three conditions which are necessary in order to add items legitimately. Like Warland (194) the following three conditions were used to evaluate the items of the scales for additivity, unidimensionality and reliability:

1. The relationships among the responses of the different items must be linear.
2. The variance of the responses to different items must be homogeneous and independent of the means.
3. The intercorrelations among the items must be positive and homogeneous.

The first condition for additivity was evaluated by the following four criteria:

1. By examining if more than 80 percent of the responses to a specific item were in a single response category. If so, all such items must be eliminated to avoid the heavy bias towards such items.
2. By comparing the minimum acceptable item-total correlation coefficient ( $r_{it}$ ) and the field sample  $r_{it}$ 's of each scale.

The minimum item-total correlation is defined as  $r_{it} = \frac{1}{\sqrt{m}}$  where  $m$  is the number of items in the scale being considered. This minimum reliability correlation coefficient test, may serve as a quasi significance

test of linearity. This coefficient indicates the amount of independent variance of the total score contributed by each item by chance alone.

The  $r_{it}$  values were considered to roughly determine which items should be discarded.

3. By using the reliability coefficient equation to determine the relative reliability of items. Items were added to the score in descending order of their average correlation with other items until the reliability dropped significantly, thereby determining the cutoff point.

An example using the familism scale is presented below:

$$\text{Reliability coefficient} = r_{tt} = m(\bar{r})/1+(m-1) (\bar{r})$$

where  $m$  = number of items

$\bar{r}$  = average intercorrelation among items

With three out of a total of five items added  $r_{tt}$  is as follows:

	<u>Item 1</u>	<u>Item 2</u>	<u>Item 3</u>
$m = 3, \bar{r} = .353$	-	.351	.411
$r_{tt} = 3(.353)/1+2(.353)$	<u>Item 2</u>	-	.294
$= 1.059/1.706$	<u>Item 3</u>		-
$= .620$			

With the addition of the fourth item  $r_{tt}$  is as follows:

	<u>Item 1</u>	<u>Item 2</u>	<u>Item 3</u>	<u>Item 4</u>
$m = 4, \bar{r} = .310$				
$r_{tt} = 4(.310) 1+3(.310)$	<u>Item 1</u>	-	.351	.411
$= 1.242/1.932$	<u>Item 2</u>		-	.294
$= .653$	<u>Item 3</u>			-
	<u>Item 4</u>			-

This indicates that with the addition of the fourth item, reliability is increased from .620 to .653. Now with the addition of the fifth item  $r_{tt}$  is as follows:

$m = 5, \bar{r} = .258$		<u>Item 1</u>	<u>Item 2</u>	<u>Item 3</u>	<u>Item 4</u>	<u>Item 5</u>
$r_{tt} = 5(.258)/1+4 (.258)$	<u>Item 1</u>	-	.351	.411	.261	.204
$= 1.290/2.032$	<u>Item 2</u>		-	.294	.164	.273
$= .634$	<u>Item 3</u>			-	.380	.128
	<u>Item 4</u>				-	.110
	<u>Item 5</u>					-

As can be seen, with the addition of the fifth item, reliability drops from .653 to .634. Having thus reached the cut-off point, decision was made to close the scale after the fourth item, dropping the fifth item.

This procedure was followed for all the other six-value scales to further eliminate items in computing total scores.

4. By evaluation of the intercorrelation among the items of each scale. This evaluation was done on the basis of the following arbitrary categories which are similar to those of Warland (94, p. 85):

- (a) If approximately 60 percent of the intercorrelation coefficients have values of .19 and below, they should be considered as having a "very low magnitude."
- (b) If approximately 60 percent of the intercorrelation coefficients have values of .29 and below, they should be declared as having a "low magnitude."
- (c) If approximately 60 percent of the intercorrelation coefficients have values .30 and above, they should be de-

clared as having a "moderate magnitude."

- (d) If approximately 60 percent of the intercorrelation coefficients have values of .50 and above, they should be declared as having a "moderately high magnitude."

The second condition of the homogeneity and independence of the variance of the response items was also evaluated by the criteria similar to those of Warland (94, p. 85).

1. By inspection of the pattern of relationships between the item means and item standard deviations.
2. By examining the range of the item standard deviations.

If the means and the standard deviations seemed to be unrelated then they were considered as "relatively independent". If there seemed to be some pattern of relationship between the means and standard deviations it was recognized. The item standard deviations are presented and the ranges mentioned.

However, as Warland (94) points out, the evaluation of the relationship between the items means and item standard deviations should be considered rather tenuous due to the few number of items in each scale. The main purpose of this analysis however, is to indicate a procedure which can be used to evaluate additivity and examine the general pattern of relationships between item means and standard deviations.

The third and final condition of additivity was evaluated by examining the intercorrelations among the items. This evaluation was done on the basis of the following arbitrary categories:

- (a) If approximately 60 percent of the intercorrelation coefficients are within a range of four adjacent categories, for example, .10 to .19 and .20 to .29 and .30 to .39 and .40 to .49, these coefficients will be considered as being concentrated in a "moderate range".
- (b) If approximately 60 percent of the intercorrelation coefficients are within a range of three adjacent categories, these coefficients will be considered as being concentrated in a "moderately narrow range".
- (c) If approximately 60 percent of the intercorrelation coefficients are within a range of two adjacent categories these coefficients will be considered as being concentrated in a "relatively narrow range".
- (d) If approximately 60 percent of the intercorrelation coefficients are within any single category, these coefficients will be considered as being concentrated in a "narrow range".

#### Construction of seven value scales

The seven value scales will first be described according to the various aforementioned criteria, the scales will next be compared to each other in terms of the extent to which they approach the conditions of additivity. The description of the seven scales given below is somewhat repetitive, but is unavoidable because of the similar criteria used in constructing and evaluating them.

#### Familism scale

This scale was constructed as a relative measure of the respondents' consideration of all the family members and



the family as a unit with reference to housing evaluation and housing decisions.

Epistemic correlation<sup>1</sup>: Familism value score will be a measure of the familism housing value.

The familism scale that was administered to the respondents had five items. None of the five items had 80 percent or more responses in a single response category. All of the item  $r_{it}$ 's exceeded the minimum  $r_{it}$  of .447. Item e (Appendix B) did not meet the reliability coefficient ( $r_{tt}$ ) test and therefore was dropped when computing the total score for the value of familism. Data relevant to the four items included in calculating the total familism score are presented in Table 3. An examination of Table 3 indicates all of the item  $r_{it}$ 's exceed the minimum  $r_{it}$  of .500. The means and standard deviations of the items appear to be relatively independent. The range of the standard deviations of the items is from .586 to .780.

The range of the intercorrelation among the 4 items of the scale is from .128 to .411. The intercorrelation coefficients are in a relatively narrow range, 66.6 percent being in the .10 to .29 range. The average intercorrelation coefficient ( $r_{ij}$ ) is .276. The distribution of the intercorrelations among the four items of the familism scale (Appendix C, Table 33) indicates that the coefficients are low in magnitude.

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<sup>1</sup>Epistemic correlation will herein after be indicated as E.C.

Table 3. Data pertaining to the items of the familism scale

Item	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
a. A good house for families like mine is one in which family members can spend their time together.	4.63	.586	.522
b. A good house for families like mine is one which has enough room for our parents to come and spend weekends or holidays with us.	4.08	.796	.711
c. A good house for families like mine is one which has enough room for relatives to get together .	4.02	.788	.628
d. A good house for families like mine is one which has enough room so that if it became necessary one of our parents could stay with us for a month.	3.99	.780	.738
$r_{it} = .500$			
$r_{tt} = .653$			

The possible range on this scale was from 4 to 20. The actual scores ranged from 6 to 20 with a mean of 15.88 and standard deviation 2.32.

Table 4 contains the distribution of the total scores by category established on the basis of the standard deviation.

Both the distribution of the total scores and the mean of the total scores indicate that a majority of the respondents scored on the positive end of the scale.

Table 4. Distribution of total sample scores on the familism scale

Score category	Frequency	Percent
12 and below	18	8.33
13 - 15	53	24.54
16-- 18	114	52.78
19 and above	31	14.35
Total	216	100.00
Range of total score = 6-20		
$\bar{X}$ = 15.88		
s = 2.32		

Economy scale This scale was intended to operationalize the value of economy in terms of monetary aspects only. The purpose was to measure the degree to which respondents gave priority to this value in relation to housing.

E.C. 2: Economy value score will be a measure of the housing value of economy.

The economy scale that was included in the interview schedule consisted of five items. None of the five items had 80 percent or more responses in a single response category. Item d (Appendix B) did not need the minimum  $r_{it}$  requirement while item a (Appendix B) failed to meet the reliability coefficient requirement. Therefore both item a and d were dropped when computing the total economy score. Data relevant to the three items included in arriving at the total economy score are presented

in Table 5. An examination of the table shows that all the item  $r_{it}$ 's exceed the minimum  $r_{it}$  of .577. The means and standard deviations of the items seem to be positively related. The range of the standard deviations of the items is from .772 to .962. The range of the intercorrelation among the items of the scale is from .178 to .209. All the intercorrelations are in a single category, that is, the intercorrelation coefficients are in a narrow range, but the intercorrelations among the items (Appendix C, Table 34) are very low in magnitude. The average intercorrelation coefficient is .192.

Table 5. Data pertaining to the items of the economy scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
b. A house which has lower rent than our present one, even though it did not have some of the conveniences of our present house would be more desirable.	2.29	.962	.752
c. A family like mine would not mind spending a little money occasionally on a rented house in order to make living in it more comfortable.	2.12	.786	.634
e. A good house for a family like mine is one for which one has to pay the least possible rent.	1.94	.772	.628
$r_{it} = .577$			
$r_{tt} = .416$			

The possible range of total scores on the economy scale was from 3 to 15 while the actual range was from 3-12. The mean of the total score is 6.37 and the standard deviation is 1.74. The distribution of the total scores by categories established on the basis of the standard deviations is presented in Table 6.

Table 6. Distribution of total sample scores on the economy scale

Score category	Frequency	Percent
3 and below	8	3.70
4 - 6	137	63.42
7 - 9	57	26.39
10 and above	14	6.49
Total	216	100.00
Range of total score = 3-12		
$\bar{X} = 6.37$		
$s = 1.74$		

The distribution of the total scores and the mean of the total scores indicate that a majority of the respondents scored towards the negative end of the scale.

Aesthetic scale This scale was constructed to measure the extent to which the respondents believe that beauty is desirable with reference to housing.

E.C. 3: Aesthetic value score will be a measure of the aesthetic value of housing.

None of the five items in the aesthetic scale had 80 percent or more responses in a single response category. Data relevant to these items are presented in Table 7. All of the item-total correlations exceed the computed  $r_{it}$  of .447. The means and standard deviations of items c, d and e seem to be positively associated, while those of items a and b appear to be relatively independent. The item standard deviations range from .624 to 1.149.

Table 7. Data pertaining to the items of the aesthetic scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
a. A good house for families like mine is one which is pleasing to look at.	3.79	.867	.691
b. A good house for families like mine is one which has a garden around it.	3.24	1.149	.731
c. For families like mine, an attractively decorated and furnished house adds much to the joy of living.	4.32	.652	.549
d. A good house for families like mine is one which reflects good workmanship.	4.20	.645	.657
e. A good house for families like mine is one which emphasizes simplicity and harmony in architecture.	4.15	.624	.571
$r_{it} = .447$			
$r_{tt} = .657$			

Ninety percent of the intercorrelations among the items of the aesthetic scale are concentrated in the .20 to .39 range, 60 percent of these being within the .20 to .29 range (Appendix C, Table 35), indicating that the coefficients are within a narrow range. The range of all item intercorrelation coefficients is from .139 to .382, the average intercorrelation being .277. The magnitude of these coefficients is low.

The actual range of total scores on this scale ranged from 10 to 25 while the possible range of responses was from 5 to 25. The mean total score is 19.71 with a standard deviation of 2.59. The distribution of the total scores and mean presented in Table 8 indicate that most of the respondents scored near the positive end of the scale.

Table 8. Distribution of total sample scores on the aesthetic scale

Score category	Frequency	Percent
15 and below	10	4.63
16 - 19	74	34.26
20 - 23	119	55.09
24 and above	13	6.02
Total	216	

Range of total scores = 10 - 25

$$\bar{X} = 19.71$$

$$s = 2.59$$

External privacy scale      This scale was developed as a relative measure of the degree to which respondents believe external privacy is important in residential living .

E.C. 4: External privacy value score will be a measure of the housing value of external privacy.

The external privacy scale that was administered to the respondents had five items. None of the five items had 80 percent or more responses in a single response category. Item b (Appendix B) did not meet the minimum  $r_{it}$  requirement while item a (Appendix B) failed to meet the reliability coefficient requirement. Therefore both items a and b were eliminated in the computation of the total external privacy score. Data pertaining to items c, d and e which were added together to arrive at the total score are given in Table 9. The computed minimum  $r_{it}$  is .577, and all the field sample  $r_{it}$ 's exceed this value. The item means appear to be relatively independent of the item variances. The range of the standard

Table 9. Data pertaining to the items of the external privacy scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
c. A good house for families like mine is one which is screened from the direct scrutiny of passer-bys.	3.39	1.047	.834
d. A good house for families like mine is one which is screened from the neighboring houses.	3.12	1.129	.852
e. A good house for families like mine is one in which people when on the second floor cannot see into the yards of the families other than their own.	3.11	1.078	.792
$r_{it} = .577$			
$r_{tt} = .769$			



deviations of the items is from 1.047 to 1.078. The item intercorrelation range is from .469 - .624, the concentration of the coefficients being in a narrow range (Appendix C, Table 36). The average intercorrelation coefficient is .526, the coefficient values being moderate in magnitude.

The possible range of the total scores on the external privacy value scale was from 3 to 15. The actual range was from 5 to 15, with a mean of 9.63 and a standard deviation of 2.69. The distribution of total scores by categories established on the basis of the standard deviation is given in Table 10. Both the distribution of the total scores and the mean of the total scores indicate that the majority of the respondents scored around the middle of the external privacy scale.

Table 10. Distribution of total sample scores on the external privacy scale

Score categories	Frequency	Percent
5 and below	1	.46
6 - 9	92	42.59
10 - 13	114	52.78
14 and above	9	4.17
Total	216	100.00

Range of total scores = 5 - 15

$$\bar{X} = 9.63$$

$$s = 2.69$$

Internal privacy scale      This scale was developed to measure the degree to which respondents considered internal privacy important in residential living.

E.C. 5: Internal privacy value score will be a measure of the housing value of internal privacy.

The internal privacy scale that was included in the interview schedule had five items. None of the five items had 80 percent or more responses in a single response category. All of the item  $r_{it}$ 's exceeded the minimum  $r_{it}$  value, but item a (Appendix B) did not meet the reliability coefficient test and therefore was excluded when computing the total internal privacy score. Data relevant to the four items included in arriving at the total internal privacy score are presented in Table 11. An examination of this table indicates that all the field sample  $r_{it}$ 's exceeded the computed minimum acceptable  $r_{it}$  of .500. The reliability coefficient of this scale is .638. The means and standard deviations of the items appear to be negatively related. The range of the standard deviation of the items is from .522 to .765.

The intercorrelations among the four items appear to be concentrated in a relatively narrow range. Of the intercorrelations among the four items, 50 percent seemed to be of low magnitude and 50 percent of moderate magnitude (Appendix C, Table 37). The range of the intercorrelations is from .254 to .419. The average intercorrelation is .306.

The distribution of the scores by the categories established on the basis of the standard deviation is presented in Table 12. The possible range of the total scores on the internal privacy scale was from 4 to 20.

Table 11. Data pertaining to the items of the internal privacy scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
b. A good house for families like mine is one in which the parents do not have to share their bedroom with their child or children.	4.68	.522	.647
c. A good house for families like mine is one in which school age children of the opposite sex do not have to share bedrooms with each other.	4.47	.646	.701
d. A good house for families like mine is one in which voices do not carry too freely from one room to another.	4.39	.638	.702
e. A good house for families like mine is one which has an entry hall so that callers do not enter directly into the living room.	4.11	.765	.709
$r_{it} = .500$			
$r_{tt} = .638$			

The actual range was from 9 to 20, with a mean of 17.67 and standard deviation of 1.78. The distribution of the total scores and means indicate that most of the respondents scored near the positive end of the scale.

Mental health scale      The mental health scale was developed to measure the degree to which respondents consider the importance of

having the housing environment such that it minimizes frustration and anxiety and facilitates internal tranquility.

Table 12. Distribution of total sample scores on the internal privacy scale

Scores categories	Frequency	Percent
14 and below	11	5.09
15 - 17	80	37.03
18 - 20	125	57.88
Total	216	100.00

Range of total scores = 9 - 20

$$\bar{X} = 17.67$$

$$s = 1.78$$

E.C. 6: Mental health value score will be a measure of the housing value of mental health.

This scale had five items. No single response category of the five items had 80 percent or more of the responses. Data relevant to the five items, the responses of which were added together to obtain the total mental health score are presented in Table 13. All of the item-total correlations exceed the computed  $r_{it}$  of .447. The item means and item standard deviations appear to be relatively independent. The item standard deviations range from .535 to .843. The reliability coefficient of the scale is .644. The intercorrelation coefficients among the items are concentrated in a narrow range, but they are low in magnitude

(Appendix C, Table 38). The range of the intercorrelations is from .204 to .444. The average intercorrelation coefficient is .266.

Table 13. Data pertaining to the items of the mental health scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
a. A good house for families like mine is one which gives me a feeling of orderliness.	4.35	.535	.605
b. A good house for families like mine is one which gives me a feeling of calmness.	4.19	.509	.607
c. A good house for families like mine is one which has some place where I can be alone when I am upset.	4.22	.651	.655
d. A good house for families like mine is one which has some space where I could work on a hobby or project and leave it set up while I am not working on it.	4.39	.600	.565
e. A good house for families like mine is one in which I and my husband can spend daytime hours together occasionally without interruption from the children.	3.93	.843	.690
$r_{it} = .447$			
$r_{tt} = .644$			

The possible range on this scale was from 5 to 25. The actual scores ranged from 14 to 25 with a mean of 21.12 and a standard deviation of 2.06. Table 14 contains the distribution of the total scores by category, established on the basis of the standard deviation. Both the distribution

of the total scores and the means reflect that the responses clustered at the positive end of the mental health scale.

Table 14. Distribution of total sample scores on the mental health scale

Score category	Frequency	Percent
17 and below	5	2.31
18 - 20	89	41.20
21 - 23	87	40.29
24 and above	35	16.20
Total	216	

Range of total scores = 14 - 25

$$\bar{X} = 21.12$$

$$s = 2.06$$

Internal convenience scale This scale was constructed as a measure of the degree to which respondents consider conveniences inside the house important to them.

E.C. 7: Internal convenience value score will be a measure of the housing value of internal convenience.

The internal convenience scale that was administered to the respondents had five items. None of the five items had 80 percent or more responses in a single response category. All the five item  $r_{it}$ 's exceeded the minimum  $r_{it}$ . Item c (Appendix B) did not meet the reliability coefficient test and therefore was dropped when computing the total score

for the value of internal convenience. Data relevant to the four items included in calculating the total internal convenience score are presented in Table 15. Examination of the table indicates that all of the item  $r_{it}$ 's except item b meet the minimum item-total value of .500. But as the  $r_{it}$  value of this item was not very different from that of the minimum computed  $r_{it}$  value, item b was retained. The scale  $r_{tt}$  is equal to .547.

Table 15. Data pertaining to the items of the internal convenience scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
a. A good house for families like mine is one which is easy to keep clean.	4.48	.562	.551
b. A good house for families like mine is one which has enough storage space.	4.72	.448	.493
d. A good house for families like mine is one in which the temperature in the different rooms of the house can be regulated separately.	3.76	.998	.723
e. A good house for families like mine is one which has laundry space separate from the kitchen.	3.75	1.021	.751
$r_{it} = .500$			
$r_{tt} = .547$			

The means and standard deviations of the four items appear to be negatively related. The range of the standard deviations is from .493 to .751.

A majority of the intercorrelation coefficients are concentrated

in a narrow range but they are of a very low magnitude (Appendix C, Table 39). The range of the intercorrelations is from .115 to .421. The average item intercorrelation is .232.

The actual range of total scores on this scale ranged from 11 to 20 while the possible range of responses was from 4 to 20. The mean total score is 16.72 and the standard deviation is 2.02. The distribution of total scores by categories established on the basis of the standard deviation is given in Table 16. Examination of this table reflects that a majority of the respondents scored towards the positive end of the scale.

Table 16. Distribution of total sample scores on the internal convenience scale

Score category	Frequency	Percent
12 and below	7	3.25
13 - 15	49	22.68
16 - 18	112	51.85
19 and above	48	22.22
Total	216	100.00

Range of total scores = 11 - 20

$$\bar{X} = 16.72$$

$$s = 2.02$$



Comparison of the seven value scales

A summary of the evaluation

of the seven scales in terms of the degree to which they satisfy the arbitrary conditions set up for additivity is presented in Table 17. There is some variation in the extent to which these scales possess the properties of unidimensionality, reliability and additivity. An attempt is made to compare the scales on the basis of how well each seems to approach the conditions of additivity. This comparison must however be considered very arbitrary due to the difficulty in objectively comparing the scales because of a lack of marked variation between the scales.

The scales in Table 17 have been ordered on the basis of how well each seems to meet the criteria for additivity relative to one another. The external privacy scale appears to best conform to the additivity criteria. This scale has the highest reliability coefficient and the average intercorrelation among the seven scales. The item means and the item standard deviations of this scale were judged as relatively independent. The range of the item standard deviation is the smallest among the scales, while the magnitude of intercorrelations is moderate, which is the highest of any of the seven scales.

The remaining three scales, namely, familism, mental health and aesthetics are relatively equal in their overall conformity to the criteria. However, it appears that the familism and mental health scales conform somewhat better to these criteria than the aesthetic scale which has a wider range of standard deviations and a somewhat positive relationship between the means and standard deviations. On the whole these three scales do not conform as well to all the criteria as the external privacy

Table 17. Summary of the value scale data related to the criteria of additivity

Scale	No. of items	$r_{tt}$	$\bar{r}_{ij}$	Relationship of $\bar{X}$ and $s$	Range of $s$	Concentration of intercorrelations	Relative magnitude of intercorrelations
1. External privacy	3	.769	.526	relatively independent	1.047 to 1.078	.40 to .69	moderate
2. Familism	4	.653	.276	relatively independent	.586 to .780	.10 to .29	low
3. Mental health	5	.644	.266	relatively independent	.535 to .843	.20 to .29	low
4. Aesthetic	5	.657	.277	somewhat positively related	.642 to 1.149	.20 to .39	low
5. Internal privacy	4	.500	.306	negatively related	.522 to .765	.20 to .39	moderate
6. Internal convenience	4	.547	.232	negatively related	.493 to .751	.10 to .19	very low
7. Economy	3	.416	.192	positively related	.772 to .962	.10 to .20	very low

scale. The  $r_{tt}$  and  $\bar{r}_{ij}$  for these scales are by and large, lower than for the first scale. The ranges of the standard deviations are somewhat wider. Though the ranges of the concentration of the intercorrelation of these three scales is narrower than for the first scale, the magnitude of the intercorrelations is lower.

The next in order seems to be the internal privacy scale. The  $r_{it}$  of this scale is lower than that of the first four scales and a negative relationship is reflected between the item means and item standard deviations. However the concentration of the intercorrelations is in a relatively narrow range and the magnitude of the intercorrelations is moderate.

The last two scales, namely, the internal convenience and economy scales, appear to conform the poorest to the criteria for additivity. The  $\bar{r}_{ij}$  and the relative magnitude of the intercorrelation coefficients of these two scales are considerably lower than those of the other scales. An important consequence of this situation is that the  $r_{tt}$ 's of these two scales are the lowest among the seven scales. There also seems to be a relationship between the item means and item standard deviations.

As pointed out earlier, these comparisons between the scales are very general and arbitrary and can therefore be questioned. Nevertheless, such a comparison does provide some information about the reliability of the scales, though the reliability factor is affected by the small number of items, as measurement error tends to be higher for scales with a small number of items than those with many items. But, in spite of the caution necessary in viewing the comparisons between the scales as

not very rigorous and objective, these comparisons may, as Warland (94, p. 133) states,

...be important in the evaluation and interpretation of the findings, for the presence or absence of certain relationships can be evaluated in light of the general conformity of these scales to the criteria established.

### Housing satisfaction indices and scales

The concept of housing satisfaction presented in the last chapter was operationalized by housing satisfaction indices and scales. The procedure followed in the construction of the satisfaction scales and the scoring of the satisfaction indices and scales was similar to the one used for the seven housing value scales just described.

Room adequacy satisfaction index      A single item (Appendix B, question 25) on a five point satisfaction scale of intensity of very satisfied, satisfied, partly satisfied, partly dissatisfied, dissatisfied and extremely dissatisfied was used as an index of room adequacy.

E.C. 8: Room adequacy satisfaction score will be a measure of the satisfaction with the adequacy of the number of rooms in the house.

Bedroom size satisfaction index      A single item (Appendix B, question 26) on a five point satisfaction scale of intensity was used to operationalize bedroom size satisfaction.

E.C. 9: Bedroom size satisfaction score will be a measure of the satisfaction with the sizes of the two bedrooms in the house.

Living room size satisfaction index      A single item (Appendix B, question 26) on a five-point satisfaction scale of intensity was used as an indicant of the satisfaction with the living room size.

E.C. 10: Living room size satisfaction score will be a measure of the satisfaction with the size of the living room in the house.

Aesthetic satisfaction index      A single item (Appendix B, question 20) on a five-point scale of intensity was used as an index of aesthetic satisfaction.

E.C. 11: Aesthetic satisfaction score will be a measure of the satisfaction with the aesthetic aspects of the house.

External privacy satisfaction index      A single item (Appendix B, question 22) on a five point satisfaction scale of intensity was used to operationalize external privacy satisfaction.

E.C. 12: External privacy satisfaction score will be a measure of the satisfaction with the external privacy aspects of the house.

Internal privacy satisfaction scale      This scale was developed to measure the degree to which respondents were satisfied with the internal privacy aspects of their house.

E.C. 13: Internal privacy satisfaction score will be a measure of the satisfaction with the internal privacy aspects of the house.

Seven items were selected to be included in the scale, but since only three items (Appendix D) met the reliability coefficient requirement, the other four items were dropped. Data relevant to the three items included in arriving at the internal privacy satisfaction score are presented in Table 18. The computed minimum  $r_{it}$  is .577 and all the field sample  $r_{it}$ 's exceed this value. The item means and item standard deviations appear to be negatively related. The item standard deviations range from .528 to 1.021. The reliability coefficient of this scale is .637. The intercorrelations among the three items appear to be concentrated in a moderately narrow range and are of a moderately high magnitude (Appendix C, Table 40). The range of the intercorrelations is from .200 to .601. The average intercorrelation is .372.

Table 18. Data pertaining to the items of internal privacy satisfaction scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
1	3.40	1.021	.792
2	4.03	.741	.778
3	4.11	.528	.671

$r_{it} = .577$   
 $r_{tt} = .637$

The distribution of the scores by categories established on the basis of the standard is presented in Table 19. The possible range of the total scores on the internal privacy satisfaction scale is from 3 to 15. The actual range is from 6 to 15 with a mean of 11.56 and a standard deviation of 1.68. The distribution of the scores by categories established on the basis of the standard deviation is presented in Table 19. The table reflects that a majority of the scores are towards the positive end of the scale.

Table 19. Distribution of total sample scores on the internal privacy satisfaction scale

Score category	Frequency	Percent
7 and below	3	1.39
8 - 10	52	24.07
11 - 13	132	61.11
14 and above	29	13.42
Total	216	100.00

Range of total score = 6 - 15

$$\bar{X} = 11.56$$

$$s = 1.68$$

Mental health satisfaction scale      This scale was intended to operationalize the satisfaction of the respondents with those physical aspects of their house which would promote mental health.

E.C. 14: Mental health satisfaction score will be a measure of the satisfaction with the mental health aspects of the house.

Five items (Appendix D) were selected to be included in this scale; all five items met the  $r_{it}$  and  $r_{tt}$  requirements for additivity and therefore were added together to obtain the total mental health satisfaction score. Data relevant to these five items are presented in Table 20. The computed  $r_{it}$  is .447. All of the field sample  $r_{it}$ 's exceed this value. The item means and the item standard deviations appear to be relatively independent. The item standard deviations range from .674 to 1.021. The coefficient of reliability is .699.

Table 20. Data pertaining to the items of mental health satisfaction scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
1	4.23	.819	.577
2	3.49	.868	.743
3	3.40	1.021	.727
4	4.03	.674	.584
5	3.16	.974	.731

$$r_{it} = .447$$

$$r_{tt} = .699$$

The distribution of the intercorrelations among the items can be found in Appendix C, Table 41. The range of a majority of the intercorrelations is relatively narrow, the overall range being .161 to .457. The magnitude of the intercorrelation coefficients is moderately high.



The average intercorrelation coefficient is .318. The actual range of the total scores on the mental health satisfaction scale is from 10 to 25 whereas the possible range is from 5 to 25. The mean value is 18.33 and the standard deviation is 2.96. Table 21 presents the distribution of scores by categories established on the basis of standard deviations. As can be seen a majority of the scores are concentrated at the center of the scale.

Table 21. Distribution of total sample scores on the mental health satisfaction scale

Score category	Frequency	Percent
14 and below	21	9.72
15 - 18	94	43.52
19 - 22	84	38.88
23 and above	17	7.88
Total	216	100.00

Range of total score = 10 - 25

$$\bar{X} = 18.33$$

$$s = 2.96$$

Internal convenience satisfaction scale      This scale was developed to measure the extent to which respondents were satisfied with conveniences provided inside their houses.

E.C. 15: Internal convenience satisfaction score will be a measure of the satisfaction with the internal convenience aspects of the house.

Though 17 items were selected to be included in the scale, only eight items (Appendix D) met the reliability coefficient requirement, therefore the other nine items were dropped from inclusion in this scale. Data relevant to the eight items included in arriving at the internal convenience satisfaction score and presented in Table 22. The computed minimum  $r_{it}$  for the internal convenience satisfaction scale is .353. All of the item  $r_{it}$ 's exceed this value. The item means and the item standard deviations appear to be relatively independent. The item standard deviations range from .616 to 1.020. The coefficient of reliability is .782.

Table 22. Data pertaining to the items of the internal convenience satisfaction scale

Items	Field sample X	Field sample s	Field sample $r_{it}$
1	4.30	.616	.596
2	3.81	.892	.659
3	3.33	1.020	.602
4	4.31	.574	.588
5	3.86	.927	.607
6	3.38	.938	.639
7	4.03	.674	.391
8	3.92	.620	.500

$$r_{it} = .353$$

$$r_{tt} = .728$$

The item intercorrelation range is from .053 to .676. The intercorrelation coefficients are moderate in magnitude and are concentrated in a moderately narrow range (Appendix C, Table 42). The  $r_{ij}$  is .251.

The range of the total scores on the internal convenience satisfaction scale is from 20 to 40 whereas the possible range is from 8 to 40. The mean value is 31.34 and the standard deviation is 3.74. The distribution of the total scores by categories established on the basis of standard deviations is presented in Table 23. The distribution of the scores and the mean of the total scores indicate that a majority of the respondents scored toward the positive end of the scale.

Table 23. Distribution of total sample scores on the internal convenience satisfaction scale

Score category	Frequency	Percent
26 and below	21	9.72
27 - 31	95	43.99
32 - 36	80	37.04
37 and above	20	9.25
Total	216	100.00
Range of total score = 20 to 40		
$\bar{X} = 31.34$		
$s = 3.74$		

Entire house satisfaction scale      This scale was developed to measure the extent to which individuals were satisfied both with the external and internal physical aspects of their entire house.

E.C. 16: Entire house satisfaction score will be a measure of the satisfaction with the entire house.

All 34 items (Appendix D) selected for inclusion in this scale met the  $r_{it}$  and  $r_{tt}$  requirement for additivity and were therefore added together to obtain the score for the entire house satisfaction scale. Data relevant to these 34 items are presented in Table 24. An examination of this table indicates that all of the item  $r_{it}$ 's exceeded the minimum acceptable  $r_{it}$  of .171. The means and standard deviations appear to be relatively independent. The item standard deviations range from .528 to 1.22. The reliability coefficient of this scale is .849.

The intercorrelations among the items of the entire house satisfaction scale are concentrated in a moderately narrow range. The range of all item intercorrelation coefficients is from .001 to .676 (Appendix C, Table 43) and the average intercorrelation coefficient is .142. The magnitude of the coefficients is very low.

The actual range of total scores on this scale ranged from 98 to 148 while the possible range of responses is from 34 to 170. The mean total score is 127.32 with a standard deviation of 11.48. Table 25 presents the distribution of scores by categories established on the basis of standard deviations. The data in Table 25 indicate that most of the total scores are concentrated towards the positive end of the scale.

Comparison of the four satisfaction scales      A summary of the evaluation of the four satisfaction scales similar to the one presented in Table 17 for the value scales is shown in Table 26. In this table the scales are ordered on the basis of how well each appears to conform to the additivity criteria in relation to each other.

Table 24. Data pertaining to the items of the entire house satisfaction scale

Items	Field sample $\bar{X}$	Field sample s	Field sample $r_{it}$
1	3.91	.760	.319
2	4.12	.764	.260
3	3.92	.680	.332
4	3.84	.797	.284
5	3.53	.845	.425
6	3.79	.828	.330
7	4.23	.819	.577
8	3.49	.868	.743
9	3.40	1.021	.727
10	4.03	.674	.584
11	3.16	.974	.731
12	3.95	.677	.413
13	3.26	1.029	.311
14	4.11	.528	.415
15	3.69	.903	.432
16	2.86	1.102	.216
17	3.80	.885	.399
18	3.79	.908	.430
19	3.84	.829	.257
20	3.96	.853	.344
21	4.21	.620	.412
22	4.44	.739	.437
23	3.61	.953	.339
24	4.34	.825	.290
25	3.53	1.011	.434
26	2.75	1.227	.365
27	2.84	1.223	.319
28	3.47	1.128	.365
29	4.30	.616	.426
30	3.81	.892	.322
31	3.33	1.020	.288
32	4.31	.574	.341
33	3.86	.927	.323
34	3.38	.938	.302

$$r_{it} = .171$$

$$r_{tt} = .849$$

Table 25. Distribution of total sample scores on the entire house satisfaction scale

Score category	Frequency	Percent
114 and below	38	17.59
115 - 128	79	36.58
129 - 142	84	38.88
143 and above	15	6.95
Total	216	100.00

Range of total score = 98 - 148

$$\bar{X} = 127.32$$

$$s = 11.48$$

The mental health satisfaction scale appears to conform best to the criteria. The intercorrelation coefficient is among the highest of the four scales. The range of the item standard deviation as well as the ranges of the concentration of the intercorrelations are among the smallest of the group. The magnitude of a majority of the item intercorrelations is the highest of the four scales.

Next in order seems to be the internal convenience scale. Though the  $r_{tt}$  of this scale is higher than that of the mental health scale it has a lower  $\bar{r}_{ij}$ . The ranges of the standard deviation as well as that of the concentration of the intercorrelations are wider than that of the first scale.

The last two scales appear to conform the poorest to the criteria for additivity. The entire house satisfaction scale has the highest  $r_{tt}$ ,

Table 26. Summary of the satisfaction scale data related to the criteria of additivity

Scale	No. of items	$r_{tt}$	$\bar{r}_{ij}$	Relationship of $\bar{X}$ and $s$	Range of $s$	Concentration of intercorrelations	Relative mag- nitude of intercorrela- tions
Mental health	5	.699	.318	relatively independent	.674 to 1.021	.30 to .49	moderate
Internal con- venience	8	.728	.251	relatively independent	.616 to 1.020	.10 to .39	moderate
Entire house	34	.849	.142	relatively independent	.528 to 1.227	.01 to .29	low
Internal privacy	3	.637	.370	negatively related	.528 to 1.078	.20 to .60	moderate

but it has the lowest  $\bar{r}_{ij}$  value. Though the relation between the item means and item standard deviations of this scale has been judged as relatively independent, the range of the item standard deviations is among the widest of the four scales. The magnitude of a majority of the item intercorrelations is the lowest.

The internal privacy satisfaction scale has the lowest  $r_{tt}$  value of the four scales but it has the highest average intercorrelation value. The item means and item standard deviations of this scale were judged as negatively related. The range of the item standard deviations as well as the range of the concentration of intercorrelations is among the widest of the four scales.

As pointed out in the discussion on the comparison of the value scales, comparisons such as these must be considered very arbitrary and general. Nevertheless they do provide some information about the reliability of the scales.

#### Situational characteristics

The five situational characteristics, namely, age, income, education, family size and composition and employment status will be operationally defined by five indices. These indices will be used to measure the extent to which these characteristics influence individual housing values and housing satisfactions.

Age Age was operationalized in the interview schedule by asking the respondent to indicate her age as of her last birthday. The scoring will be as follows:



- 0 = 18 years and under
- 1 = 19 years - 20 years
- 2 = 21 years - 22 years
- 3 = 23 years - 24 years
- 4 = 25 years - 26 years
- 5 = 27 years - 28 years
- 6 = 29 years - 30 years
- 7 = 31 years and over

E.C. 17: Age in years is a measure of the situational characteristic of age.

Income      Income in this study referred to only money income. It was operationalized in the interview schedule by an index which consisted of categories of gross money income. The categories and their scorings are given below:

- 0 = below \$3,000
- 1 = \$3,000 - \$3,499
- 2 = \$3,500 - \$3,999
- 3 = \$4,000 - \$4,499
- 4 = \$4,500 - \$4,999
- 5 = \$5,000 - \$5,499
- 6 = \$5,500 - \$5,999
- 7 = \$6,000 - \$6,499
- 8 = \$6,500 and above

The respondent was asked to indicate the income category which is closest to the total amount of money income she and her husband received from all

sources during the year 1966.

E.C. 18: Income in dollars is a measure of the situational characteristic of income.

Education Education will be measured by the response to the question: What was the highest year in school or college completed by you? Scoring will be as follows:

- 1 = attended high school but did not complete it
- 2 = completed high school
- 3 = attended college but did not receive bachelors degree
- 4 = received bachelor's degree
- 5 = some graduate work

E.C. 19: Education score is a measure of the situational characteristic of education.

Family size and composition Family size and composition will be operationalized by responses to the questions on the number of children in the family, their sex and ages. The family compatibility score will be arrived at as follows:

- 0 = mixed sex family, three or more children
- 1 = boy and girl, one 6 years or over, other sex child 3 years or over
- 2 = three boys or three girls
- 3 = boy and girl either over 3 years, but under 6 years
- 4 = boy and girl, either under 3 years
- 5 = two boys or two girls

6 = 1 child

7 = no children

E.C. 20: Family compatability score is a measure of the situational characteristic of family size and composition.

Employment status      Employment status of the respondent was operationalized by the inclusion of the following question in the interview schedule: Are you employed outside the home? If 'yes' how many hours per week? Scoring of the question is given below:

1 = No

2 = Yes, less than 20 hours

3 = Yes, 20 hours - 39 hours

4 = Yes, 40 hours and more

E.C. 21: Employment status score of the respondent is a measure of the situational characteristic of employment status.

The operational measures for all the concepts relevant to this study and as used in the statement of the hypotheses in the previous chapter have now been derived. The statistical procedure used in the analysis of the data will now be described.

#### Method of Data Analysis

The data discussed in this dissertation were analyzed by standard International Business Machines equipment at the Iowa State University Statistical Laboratory.

The statistical test which is used in the next chapter to test the various empirical hypotheses is the zero-order Pearsonian correlation

which is a parametric statistic. When parametric statistics are used, one must consider the assumptions which are associated with such tests. The assumptions made in using parametric statistics generally include normality, homogeneity of variance, independence, randomness and normally distributed and uncorrelated errors.

The data in the present study do not meet all the conditions stated above. It may be pointed out that data which are obtained in behavioral science research do not always conform to these assumptions which are many times relaxed a little to fit research data. Kerlinger (43) points out that there is some empirical evidence which shows that small deviations in meeting the assumptions underlying some of the parametric tests may not have radical effects on the obtained probability figure. He (43, p. 427) however, points out that, "...we...should know the differences and the consequences of ignoring the differences."

#### Zero-order Pearsonian correlation

The purpose of this test which is used to test the hypotheses in this study, is to determine if there is a linear relationship between the two variables stated. A correlation coefficient between 0 and 1.0 will show a positive relationship between the two variables. This indicates that as x variable increases, y variable also increases. A negative correlation coefficient, 0 to -1.0, indicates a negative relationship. This shows that as x variable increases, y variable decreases.

The degrees of freedom when applying the Pearsonian correlation technique are directly dependent on sample size ( $n-2$ ), where  $n$  is the sample

size. In the present study  $n$  was 216, the degrees of freedom being 214. The level of probability which will be considered as an acceptable indication of a statistically significant relation is the .05 level of probability. The table that is used to determine the significance level of the computed Pearsonian correlation coefficient is given by Wert et al. (98, p. 424). According to this table, the minimum correlation coefficient that is considered significant at the five percent level with 214 degrees of freedom is approximately .135.

## FINDINGS AND DISCUSSION

The theoretical concepts, general and sub-general hypotheses of this study and the epistemic correlations resulting from the explication and operationalization process were presented in the second and third chapters. Findings of this study which were relevant to the third, fourth and fifth objectives stated in the introductory chapter will now be presented and discussed. In order to facilitate the presentation, this chapter is divided into three main sections. In the first section, the distribution of housing values and the interrelations among these values are presented. The second section deals with findings pertinent to housing satisfactions. In the third and final section, statements and tests of general, sub-general and empirical hypotheses are made.

## Distribution of Housing Values and Their Interrelations

Values as determined by the forced-choice technique

Data relevant to the distribution of housing values of individuals as determined by the forced choice technique are presented in Table 27. In this table the values are ordered on the basis of the frequency with which they were indicated as of first, second or third most important housing values to the respondents.

An examination of Table 27 indicates that the values of familism and internal convenience seem to be the two most dominantly held. Both these values appear to be of equal importance to the respondents if the frequency of their being selected as first, second or third choice is

Table 27. Distribution of individuals' dominant values by ranked order statements

Values	Choice							
	1st, 2nd or 3rd		1st		2nd		3rd	
	N	%	N	%	N	%	N	%
Familism	144	66.66	86	59.73	34	23.61	24	16.66
Internal convenience	144	66.66	42	29.16	46	31.96	56	38.88
Internal privacy	107	49.53	24	22.43	59	55.14	24	22.43
Aesthetics	84	38.88	12	14.29	27	32.14	45	53.57
Economy	79	36.57	33	41.77	25	31.64	21	26.58
External privacy	50	23.14	16	32.00	11	22.00	23	46.00
Mental health	40	18.51	3	7.50	14	35.00	23	57.50

considered. However, further examination in terms of the breakdown of the ordering of these choices reveals that the value of familism is considered more important than internal convenience. This is apparent by the relatively higher percentage of respondents who indicated familism as their first choice as opposed to the higher percentage who indicated internal inconvenience as their third choice.

A possible explanation of why the value of familism was ranked high could be the married status of all the respondents. The value of familism in the forced choice technique was represented by the statement 'If the house has the amenities and facilities for the family to spend time together,' this statement would appear to be of appreciable importance to married respondents. Beyer (6) also found that the value of family

centrism was dominantly held by his married respondents and concluded this to be so because of the presence of family allegiance ties of married respondents.

The high ranking of the value of internal convenience by the respondents in this study could be explained by the high proportion, namely 67.5 percent of the respondents holding jobs outside the home. It would seem plausible that working married women would hold the value of internal convenience high because of the greater demand on their time due to their dual responsibility at home and on the job.

Next in order of dominance is the value of internal privacy. This was indicated as of first, second or third importance by only approximately 50 percent of the respondents, a greater percentage of these mentioning it as their second choice. As the sample was quite homogenous on most of the situational characteristics, the naming of this value as important by only one half of the respondents and not the other remains unexplained within the context of the present study.

Next come the values of aesthetics and economy. The former was presented by the statement. 'If the house satisfies the family's desire for attractive things', and was selected by a little over one third of the respondents as being one of the values of great importance to them, albeit, a majority of these individuals ranked it as their third choice. It seems that though the value of aesthetics is importantly held by some, it becomes fairly limited when considered with the aforementioned dominantly held values. The value of economy, in general, ranked rather low. Only 36.57 percent of the respondents indicated this value as being of first, second or third importance to them. A possible explanation for



this could be the differential income factor, Table 2 herein indicates that approximately 36 percent of respondents had family incomes towards the lower end of the continuum whereas the remaining majority had incomes towards the higher end.

The values of external privacy and mental health seem to be of least importance in the hierarchy of choices. Summarizing the foregoing discussions it can be said, the findings reveal that the value of familism, and internal convenience are the two dominantly held values, followed by internal privacy, as revealed by the forced choice technique. However, the limitation of using the forced choice technique in and of itself as a device for eliciting the values of individuals must be recognized. Single statements, such as the one used, in a forced-choice method have limited validity. Such a method according to Kerlinger (43, p. 493), "...suffers from...over complexity." Beyer (6, p. 18) also points out that,

...the use of an ordinal scale in ranking tends to imply that the...responses are arranged in a hierarchy with an equal degree of importance between each response and the preceding one. Obviously this is not always the case. In some instances, there is the likelihood that the number 1- and 2- or 2- and 3-ranked selections are of equal importance, and in such an arrangement this fact is lost.

#### Values as determined by the scale analysis technique

Data relevant to the distribution of housing values as determined by the scale analysis technique are presented in Table 28. In this table the values are arbitrarily ordered. An examination of the table reflects that with the exception of the familism and aesthetic scales, the ranges over which the actual scores of respondents are distributed

Table 28. Distribution of values by scale analysis technique

Value scales	Possible range of scores	Actual range of scores	$\bar{X}$	End of scale for majority
Mental health	5 to 25	14 to 25	21.12	positive
Internal privacy	4 to 20	9 to 20	17.67	positive
Internal convenience	4 to 20	11 to 20	16.72	positive
Aesthetics	5 to 25	10 to 25	19.71	positive
Familism	5 to 20	6 to 20	15.88	positive
External privacy	3 to 15	5 to 15	9.63	middle
Economy	3 to 15	3 to 12	6.37	negative

are somewhat similar in size.

Table 28 also reflects that on five out of the seven values scales, the majority of the respondents scored towards the positive end of the scale.

The significant findings when the distribution of values by forced choice are compared with those by the scale analysis technique seem to be two in number:

1. The value of mental health by the forced choice technique appeared to be the least often mentioned as one of the three important values. On the other hand, by the scale analysis technique, the majority of the respondents scored towards the positive end of the mental health scale, the range of the distribution of the scores being the narrowest

on this scale as compared to the other scales and the mean value being relatively high.

There could be two explanations for this variation on the value of mental health as determined by the two scales. First, low validity of the mental health scale and second, poor statement used in the forced-choice technique to represent the mental health value. The first of these two explanations, however, is ruled out on the basis of the mental health value scale reliability summary presented in Table 17 herein. The second explanation seems more plausible. The statement used to represent this value was, 'If the house has some place where one can be free from the interruption of family members if one so wishes to'. It is quite likely that in relation to other statements representing different values this statement had limited pertinence to the respondents in making their choice of the three most important values.

Besides, as pointed out earlier, the use of forced choice technique has its limitations in eliciting values; Beyer (6, p. 18) emphasizes this point when he states, "...it is doubted whether the use of simple, single statements...is valid in testing such a complex concept or in seeking out the value orientations of individuals," thereby indicating that it should not be used alone. The differential rating given to the mental health value by the two techniques, further reinforces the view that the forced-choice technique should not be used alone.

2. The second significant finding in this comparison is that the four values, namely, familism, internal convenience, internal privacy and aesthetics which ranked highest under the forced-choice technique also rank as the top-four under the scale-analysis technique if the

positioning of the value of mental health is disregarded. Of further significance is the finding, that the values of external privacy and economy both appear to be of low importance to the respondents as revealed by both the techniques.

#### Interrelations among the seven value scales

Data showing the intercorrelations among the scores of the seven scales is presented in Table 29. All interrelationships among the scales other than the economy scale are statistically significant at the .05 level or greater, with the exception of the relationship between the familism scale and the external privacy scale. It is interesting to note that

Table 29. Intercorrelation coefficients among the seven value scale scores

	1	2	3	4	5	6	7
1. Familism	---	-.057 <sup>a</sup>	.165*	.008 <sup>a</sup>	.278**	.250**	.139*
2. Economy		---	-.098 <sup>a</sup>	-.016 <sup>a</sup>	-.101 <sup>a</sup>	-.115 <sup>a</sup>	-.057 <sup>a</sup>
3. Aesthetics			---	.431**	.429**	.343**	.283**
4. External privacy				---	.326**	.272**	.338**
5. Internal privacy					---	.561**	.456**
6. Mental health						---	.409*
7. Internal convenience							---

<sup>a</sup>Not significant at .05 level of probability

\*Significant at the .05 level of probability

\*\*Significant at the .01 level of probability

none of the relationships between the economy scale and the other six scales are significant even at the .05 level. On the contrary all the interrelationships with the economy scale are negative, thereby indicating that the value of economy does not form a configuration with the other six housing values held by the respondents.

#### Summary of value findings

Summarizing the findings of this section on the distribution of values and their interrelationships, it appears that of the seven values selected for this study, only six, namely, the values of familism, aesthetics, external privacy, internal privacy, mental health and internal convenience form a configuration of individuals' housing values.

The dominantly held values as determined by the forced choice technique are the values of familism and internal convenience. A majority of the respondents seem to hold the values of internal privacy, internal convenience aesthetics and familism rather high. External privacy and economy seem to be the least important housing values for the respondents of this study.

### Housing Satisfactions

#### Satisfaction with selected features of the house

Data relevant to the distribution of satisfaction scores with certain selected aspects of the house in terms of percentages are presented in Table 30. An examination of this table indicates that the majority of the respondents get high satisfaction scores with reference to their

Table 30. Satisfaction of respondents with certain selected features of the house

Selected features of the house	High satisfaction scores		Low satisfaction scores	
	N	%	N	%
House plan with a two story unit	192	88.88	24	11.11
Exterior of house in terms of attractiveness <sup>a</sup>	184	85.18	32	14.82
Exterior of house in terms of privacy <sup>a</sup>	161	74.53	55	25.47
Size of enclosed front yard	129	59.72	87	40.28
Adequacy of number of rooms <sup>a</sup>	187	86.57	29	13.43
Size of living room <sup>a</sup>	112	48.14	104	51.86
Size of bedrooms <sup>a</sup>	121	56.01	95	43.99
Size of bathroom <sup>a</sup>	189	87.50	27	12.50
Size of kitchen <sup>a</sup>	87	40.27	129	59.72
Shape of living room	175	81.01	41	18.99
Shape of bedrooms	111	51.38	105	48.62
Shape of bathroom <sup>a</sup>	203	93.98	13	6.02
Arrangement of fixtures in the bathroom <sup>a</sup>	189	87.50	27	12.50
Washing and drying facilities for clothes	64	29.62	152	70.37
Location of doors and windows in the house	152	70.37	64	29.63
Storage space in kitchen	151	69.91	65	30.09
General storage space in the house	196	90.74	20	9.26
Ease of maintenance of materials used for doors, floors etc.	59	27.31	157	72.69

<sup>a</sup> Items used for satisfaction scales and indices of aesthetics, external privacy, internal privacy, mental health and internal convenience

Table 30. (Continued)

Selected features of the house	High satisfaction scores		Low satisfaction scores	
	N	%	N	%
Durability of materials used for doors, floors etc.	72	33.34	144	66.66
Adequacy and quality of heating system	127	58.79	89	41.20
Adequacy of lights and wall outlets in kitchen <sup>a</sup>	204	94.44	12	5.56
Adequacy of lights and wall outlets in bathroom <sup>a</sup>	162	75.00	54	25.00
Adequacy of lights and wall outlets in the whole house <sup>a</sup>	104	48.14	112	51.85
Location of lights and wall outlets in kitchen <sup>a</sup>	204	94.44	12	5.56
Location of lights and wall outlets in bathroom <sup>a</sup>	168	77.77	48	22.23
Location of lights and wall outlets in the whole house <sup>a</sup>	102	47.22	114	52.77

satisfaction with most of the selected physical aspects of their house. However, the features on which the majority of the respondents score low satisfaction are the laundry facilities in the house and the building materials used for the construction of doors, windows and floors.

A high percentage, that is, 70.4 percent of respondents indicated a low satisfaction with respect to the laundry facilities available in the house. This can be explained because of the lack of a washer and a dryer in the housing unit. In addition, even if the tenants buy their own washer and dryer, space in the kitchen is provided only for the former.

This then creates problems and causes inconvenience in drying the clothes, especially during the winter months. This situation could be a major reason for the low satisfaction scores of the respondents on this feature of the housing.

The university housing authorities, are aware of the lack of adequate laundry facilities in these housing units and are considering how best to solve this inadequacy. In the light of this, a three point question was included in the interview schedule to determine the views of the respondents. The question was:

Which of the following plans for washing and drying clothes to you think would be best for your family?

1. Space in the apartment for both a washer and dryer.
2. Conveniently located community laundry room shared by about eight families.
3. One or two large community laundries for the whole of University Village.

Responses to this question indicated that 46.3 percent of the respondents preferred to have space in their apartment for both a washer and a dryer. The second choice of having a community laundry shared by a few families was indicated by 42.6 percent of the respondents. Only 11.1 percent, selected the third alternative of having one or two large community laundries to cater to the needs of all the University Village residents. This indicates that the first or second alternative of preferable laundry facilities would be more satisfying to the respondents than the third one.

Features of the house on which satisfaction scores seemed to be more



or less equally distributed between high and low were, sizes of front yard, living room, bedrooms and kitchen, shape of bedrooms and the adequacy and quality of the heating system.

An interesting finding seems to be with reference to the two questions asked pertaining to the satisfaction with the adequacy and convenience of location of the lights and wall outlets. Majority of the respondents scored high satisfaction when these two questions were asked specifically in relation to the kitchen and bathroom. However, when these same questions were asked more generally, that is, in terms of the whole house, over 50 percent of the respondents scored low satisfaction on both of these questions.

Possible explanations of these differential satisfaction scores could be two in number. One reason could be that the number of lights and wall outlets and their location is not satisfying to the respondents in areas of the house other than the kitchen and bathroom and therefore low scores with entire house satisfaction on these two questions. Another possible reason could be that the respondents, though recognizing their dissatisfaction in general with the number and location of lights and wall outlets in the whole house, are unable to specifically indicate where the dissatisfaction actually lies. Both explanations seem to be plausible.

Summarizing the data presented in Table 31 and the foregoing discussion of the findings, it can be concluded that in general, the majority of the respondents are satisfied with most of the selected aspects of their houses. Satisfaction is approximately equally divided between high and low on about half a dozen specific features of the house. Low

Table 31. Distribution of scores for satisfaction scales and indices

Satisfaction scales and indices	Possible range	Actual range	$\bar{X}$	End of scale for majority
Aesthetics <sup>a</sup>	1 - 5	1 - 5	4.12	positive
External privacy <sup>a</sup>	1 - 5	1 - 5	3.84	positive
Internal privacy <sup>b</sup>	3 - 15	6 - 15	11.56	positive
Mental health <sup>b</sup>	5 - 25	10 - 25	18.33	middle
Internal convenience <sup>b</sup>	8 - 40	20 - 40	31.34	positive
Entire house <sup>b</sup>	34 - 170	98 - 148	127.32	positive

<sup>a</sup>Index<sup>b</sup>Scale

satisfaction is indicated with reference to laundry facilities and the materials used in the construction of floors, doors and windows.

#### Distribution of scores for satisfaction scales and indices

Data relevant to the housing satisfactions with specific aspects of the house as determined by satisfaction scales and indices are presented in Table 31. An examination of this table reflects that the distribution of the actual scores on the various scales and indices is within a relatively narrow range except for the aesthetic and external privacy indices which, however, have small possible ranges to start with. The means of all the scales and indices are above the midpoint of the

actual ranges. On all the scales and indices with the exception of the mental health scale, the majority of the respondents tended to score towards the positive end.

Summarizing the data in Table 31, it can be concluded that the majority of the respondents are satisfied with certain specific aspects of their houses as measured by the four scales and two indices.

Interrelations among the four satisfaction scales and the two indices

Data showing the intercorrelations among the scores of the four scales and the two indexes is presented in Table 32. An examination of this table indicates that all interrelationships are statistically significant at the .05 level or greater, with the exception of the relation-

Table 32. Intercorrelation coefficients among the scores of the four scales and two indexes of satisfaction

	1	2	3	4	5	6
1. Aesthetic satisfaction <sup>a</sup>	---	.261***	.204***	.167**	.121*	.260***
2. External privacy <sup>a</sup> satisfaction		---	.193***	.201***	.105*	.284***
3. Internal privacy satisfaction <sup>b</sup>			---	.801***	.426***	.634***
4. Mental health satisfaction <sup>b</sup>				---	.326***	.703***
5. Internal convenience satisfaction <sup>b</sup>					---	.562***
6. Entire house satisfaction <sup>b</sup>						---

<sup>a</sup>Index

<sup>b</sup>Scale

\*Not significant at .05 level of probability

\*\*Significant at the .05 level of probability

\*\*\*Significant at the .01 level of probability

ship between the aesthetic satisfaction scale and the internal convenience scale (.121) and between the external privacy scale and the internal convenience scale (.105). Since these two exceptions approach statistical significance, it can be judged that the four scales and the two indexes form a configuration of individuals' housing satisfactions.

#### Summary of satisfaction findings

Summarizing the findings of this section, it is concluded that the majority of the respondents are satisfied with the physical aspects of their houses. However, it is pointed out that an influential factor in the high satisfaction of respondents with their living units could be the temporary nature of their stay in these units. All respondents are wives of students and would be living in these units for a limited period of time. It is quite possible that were these respondents to live in these units for a relatively permanent period, their satisfactions with their houses might not have been so high.

#### Statements and Tests of General, Sub-general and Empirical Hypotheses

In this section, the measures of the theoretical concepts derived in the last chapter will be interrelated to form empirical hypotheses which will be tested for statistical significance. A summary and interpretation of the results of the tests of the empirical hypotheses will be given for each of the general or sub-general hypotheses. For purposes of clarity all levels of the hypotheses will be restated.

General Hypothesis 1: Satisfaction of individuals with the specified aspects of their housing is associated with their specified housing values.

Sub-general Hypothesis 1-1: Satisfaction of individuals with the aesthetic aspects of their house is associated with their value of aesthetics.

Empirical Hypothesis<sup>1</sup> 1: There will be a negative relationship between the aesthetic satisfaction score and the score on the aesthetic value scale. The hypothesis stated in null form is: There will be no negative relationship between the aesthetic satisfaction score and the score on the aesthetic value scale. The computed correlation coefficient is  $-.059$  which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Sub-general Hypothesis 1-2: Satisfaction of individuals with the external privacy aspects of their house is associated with their housing value of external privacy.

E.H. 2: There will be a negative relationship between the external privacy satisfaction score and the score on the external privacy value scale. The hypothesis stated in null form is: There will be no negative relationship between the external privacy satisfaction score and the score on the external privacy value scale. The computed correlation coefficient is  $-.072$  which is not significant. The null hypothesis is not refuted. These data do not support the

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<sup>1</sup>Empirical hypothesis will hereafter be referred to as E.H.

original proposition.

Sub-general Hypothesis 1-3: Satisfaction of individuals with the internal privacy aspects of their house is associated with their housing value of internal privacy.

E.H. 3: There will be a negative relationship between the score on the internal privacy satisfaction scale and the internal privacy value scale score. The hypothesis stated in null form is: There will be no negative relationship between the score on internal privacy satisfaction scale and the internal privacy value scale score. The computed correlation coefficient is  $-.173$  which is significant. The null hypothesis is refuted. These data support the original proposition.

Sub-general hypothesis 1-4: Satisfaction of individuals with the mental health aspects of their house is associated with their housing value of mental health.

E.H. 4: There will be a negative relationship between the score on the mental health satisfaction scale and the mental health value scale score. The hypothesis stated in null form is: There will be no negative relationship between the score on the mental health satisfaction scale and the mental health value scale score. The computed correlation coefficient is  $-.046$  which is not significant. These data do not support the original proposition.

Sub-general hypothesis 1-5: Satisfaction of individuals with the internal convenience aspects of their house is associated with their housing value of internal convenience.

E.H. 5: There will be a negative relationship between the score on the internal convenience satisfaction scale and the internal convenience value scale score. The hypothesis stated in null form is: There will be no negative relationship between the score on the internal convenience satisfaction scale and the internal convenience value scale score. The computed correlation coefficient is  $-.023$  which is not significant. These data do not support the original proposition.

The five sub-general hypotheses representing general hypothesis one were tested by five empirical hypotheses. Only one of the five empirical hypotheses was supported by the data at the designated significance level. Based on these data it is concluded that these empirical hypotheses, in general, do not support the hypothesized relationship between the housing satisfactions of individuals and their housing values.

General Hypothesis 2: Specified housing values of individuals are associated with some of their situational characteristics.

Sub-General Hypothesis 2-1: Specified housing values of individuals are associated with their age.

S.H. 2-1-1: There will be a relationship between the value of familism and age.

E.H. 6: There will be a positive relationship between the score on the familism value scale and the age score of individuals. The hypothesis stated in null form is: There will be no positive relationship between the score on the familism value scale and the age score. The computed correlation coefficient is .013 which is not significant. These data do not support the original proposition.

S.H. 2-1-2: There will be a relationship between the value of aesthetics and age.

E.H. 7: There will be a positive relationship between the score on the aesthetic value scale and the age score of individuals. The hypothesis stated in null form is: There will be no positive relationship between the score on the aesthetic value scale and the age score. The computed correlation coefficient is .035 which is not significant. These data do not support the original proposition.

S.H. 2-1-3: There will be a relationship between the value of economy and age.

E.H. 8: There will be a negative relationship between the score on the economy value scale and the age score of individuals. The hypothesis stated in null form is: There will be no negative relationship between the score on the economy value scale and the age score. The computed correlation



coefficient is  $-.042$  which is not significant. These data do not support the original proposition.

S.H. 2-1-4: There will be a relationship between the value of external privacy and age.

E.H. 9: There will be a positive relationship between the score on the external privacy value scale and the age score of individuals. The hypothesis stated in null form is: There will be no positive relationship between the score on the external privacy value scale and the age score. The computed correlation coefficient is  $.196$  which is significant. These data support the original proposition.

S.H. 2-1-5: There will be a relationship between the value of internal privacy and age.

E.H. 10: There will be a positive relationship between the score on the internal privacy value scale and the age score of individuals. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal privacy value scale and the age score. The computed correlation coefficient is  $.076$  which is not significant. These data do not support the original proposition.

S.H. 2-1-6: There will be a relationship between the value of mental health and age.

E.H. 11. There will be a positive relationship between the score on the mental health value scale and the age score of individuals.

The hypothesis stated in null form is: There will be no positive relationship between the score on the mental health value scale and the age score. The computed correlation coefficient is .052 which is not significant. These data do not support the original proposition.

S.H. 2-1-7: There will be a relationship between the value of internal convenience and age.

E.H. 12: There will be a positive relationship between the score on the internal inconvenience value scale and the age score. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal convenience value scale and the age score. The computed correlation coefficient is .066 which is not significant. These data do not support the original proposition.

Sub-general hypothesis 2-1 was tested by seven empirical hypotheses. Only one of these seven empirical hypotheses was supported by the data at the designated significance level. It is concluded that Sub-general Hypothesis 2-1 is not supported by these data.

Sub-general hypothesis 2-2: Specified housing values of individuals are associated with their income.

S.H. 2-2-1: There will be a relationship between the value of aesthetics and income.

E.H. 13: There will be a positive relationship between the score on the aesthetic value scale and the income score. The

hypothesis stated in null form is: There will be no positive relationship between the score on the aesthetic value scales and the income score. The computed correlation coefficient is .110 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-2-2: There will be a relationship between the value of economy and income.

E.H. 14: There will be a negative relationship between the score on the economy value scale and the income score of individuals. The hypothesis stated in null form is: There will be no negative relationship between the score on the economy value scale and the income score. The computed correlation coefficient is  $-.136$  which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-2-3: There will be a relationship between the value of external privacy and income.

E.H. 15: There will be a positive relationship between the score on the external privacy value scale and the income score. The hypothesis stated in null form is: There will be no positive relationship between the score on the external privacy value scale and the income score. The computed correlation coefficient is .090 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-2-4: There will be relationship between the value of internal privacy and income.

E.H. 16: There will be a positive relationship between the score on the internal privacy value scale and the income score. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal privacy value scale and the income score. The computed correlation coefficient is .160 which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-2-5: There will be a relationship between the value of mental health and income.

E.H. 17: There will be a positive relationship between the score on the mental health value scale and the income score. The hypothesis stated in null form is: There will be no positive relationship between the score on the mental health value scale and the income score. The computed correlation coefficient is .091 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-2-6: There will be a relationship between the value of internal convenience and income.

E.H. 18: There will be a positive relationship between the score on the internal convenience value scale and the income score. The hypothesis stated in null form is: There will be no positive relationship between the score on the in-

ternal convenience scale and the income score. The computed correlation coefficient is .209 which is significant. The null hypothesis is refuted. These data support the original proposition.

Sub-general hypothesis 2-2 was tested by six empirical hypotheses. Three of these six hypotheses were supported by the data at the selected significance level. Of the three empirical hypotheses which were not supported, the relationships, nevertheless, of all three were in the hypothesized direction. These data are judged to tentatively support sub-general Hypothesis 2-2.

Sub-general hypothesis 2-3: Specified housing values of individuals are associated with their education.

S.H. 2-3-1: There will be a relationship between the value of aesthetics and education.

E.H. 19: There will be a positive relationship between the score on the aesthetic value scale and the education score.

The hypothesis stated in null form is: There will be no positive relationship between the score on the aesthetic value scale and the education score. The computed correlation coefficient is .194 which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-3-2: There will be a relationship between the value of economy and education.

E.H. 20: There will be a negative relationship between the score on the economy value scales and the education score. The hypothesis stated in null form is: There will be no negative relationship between the score on the economy value scale and the education score. The computed correlation coefficient is  $-.190$  which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-3-3: There will be a relationship between the value of external privacy and education.

E.H. 21: There will be a positive relationship between the score on the external privacy value scale and the education score. The hypothesis stated in null form is: There will be no positive relationship between the score on the external privacy value scale and the education score. The computed correlation coefficient is  $.194$  which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-3-4: There will be a relationship between the value of internal privacy and education.

E.H. 22: There will be a positive relationship between the score on the internal privacy value scale and the education score. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal privacy value scale and the education score. The computed correlation coefficient is  $.103$  which is not

significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-3-5: There will be a relationship between the value of mental health and education.

E.H. 23: There will be a positive relationship between the score on the mental health value scale and the education score. The hypothesis stated in null form is: There will be no positive relationship between the score on the mental health value scale and the education score. The computed correlation coefficient is .207 which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-3-6: There will be a relationship between the value of internal convenience and education.

E.H. 24: There will be a positive relationship between the score on the internal convenience value scale and the education score. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal convenience value scale and the education score. The computed correlation coefficient is .086 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Sub-general hypothesis 2-3 was tested by six empirical hypotheses. Four of these six hypotheses were supported by the data at the selected

significance level. Of the two empirical hypotheses which were not supported, the relationships nevertheless, were in the hypothesized direction. These data are therefore judged, in general, to support Sub-general Hypothesis 2-3.

Sub-general hypothesis 2-4: There will be a relationship between specified housing values and family size and composition.

S.H. 2-4-1: There will be a relationship between the value of familism and family size and composition.

E.H. 25: There will be a positive relationship between the score on the familism value scale and the family compatability score. The hypothesis stated in null form is: There will be no positive relationship between the score on the familism value scale and the family compatability score. The computed correlation coefficient is .034 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-4-2: There will be a relationship between the value of economy and family size and composition.

E.H. 26: There will be a negative relationship between the score on the economy value scale and the family compatability score. The hypothesis stated in null form is: There will be no negative relationship between the score on the economy value scale and the family compatability score. The computed correlation coefficient is  $-.138$  which is significant. The null hypothesis is refuted. These



data support the original proposition.

S.H. 2-4-3: There will be a relationship between the value of internal privacy and family size and composition.

E.H. 27: There will be a negative relationship between the score on the internal privacy value scale and the family compatibility score. The hypothesis stated in null form is: There will be no negative relationship between the score on the internal privacy value scale and the family compatibility score. The computed correlation coefficient is  $-.025$  which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 2-4-4: There will be a relationship between the value of mental health and family size and composition.

E.H. 28: There will be a negative relationship between the score on the mental health value scale and the family compatibility score. The hypothesis stated in null form is: There will be no negative relationship between the score on the mental health value scale and the family compatibility score. The computed correlation coefficient is  $-.145$  which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 2-4-5: There will be a relationship between the value of internal convenience and family size and composition.

E.H. 29: There will be a negative relationship between the score on

the internal convenience value scale and the family compatibility score. The hypothesis stated in null form is: There will be no negative relationship between the score on the internal convenience value scales and the family compatibility score. The computed correlation coefficient is  $-.014$  which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

Only two of the five empirical hypotheses used to test Sub-general Hypothesis 2-4 were supported by the data at the designated level of significance. However, the relationships, of the three empirical hypotheses which were not supported were, nevertheless, in the hypothesized direction indicating that there is some association between specified housing values and family size and composition although it is not statistically significant.

Sub-general Hypothesis 2-5: There will be a relationship between specified housing values and employment status.

S.H. 2-5-1: There will be a relationship between the value of economy and employment status.

E.H. 30: There will be a negative relationship between the score on the economy value scale and the employment status score. The hypothesis stated in null form is: There will be no negative relationship between the score on the economy value scale and the employment status score. The computed

correlation coefficient is  $-.142$  which is significant.

The null hypothesis is refuted. These data support the original proposition.

S.H. 2-5-2: There will be a relationship between the value of internal convenience and employment status.

E.H. 31: There will be a positive relationship between the score on the internal convenience value scale and the employment status score. The hypothesis stated in null form is: There will be no positive relationship between the score on the internal convenience value scale and the employment status score. The computed correlation coefficient is  $.137$  which is significant. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis 2-5 was tested by two empirical hypotheses. Both of these hypotheses were supported by the data at the designated significance level. It is therefore judged that there is a relationship between the housing values of respondents and their employment status.

General Hypothesis 3: Satisfactions of individuals with specified aspects of their housing are associated with some of their situational characteristics.

Sub-general Hypothesis 3-1: Satisfaction of individuals with their entire house is associated with some of their situational characteristics.

S.H. 3-1-1: There will be a relationship between the entire house satisfaction and age.

E.H. 32: There will be a negative relationship between the entire house satisfaction score and the age score. The hypothesis stated in null form is: There will be no negative relationship between the entire house satisfaction score and the age score. The computed correlation coefficient is  $-.139$  which is significant. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis 3-1-2: There will be a relationship between entire house satisfaction and income.

E.H. 33: There will be a negative relationship between the entire house satisfaction score and the income score. The hypothesis stated in null form is: There will be no negative relationship between the entire house satisfaction score and the family income score. The computed correlation coefficient is  $-.135$  which is significant. The null hypothesis is refuted. These data support the original proposition.

Sub-general Hypothesis 3-1-3: There will be a relationship between entire house satisfaction and education.

E.H. 34: There will be a negative relationship between the entire house satisfaction score and the education score. The hypothesis stated in null form is: There will be no negative relationship between the entire house satisfaction score and the education score. The computed correlation coefficient is  $-.016$  which is not significant. The null

hypothesis is not refuted. These data do not support the original proposition.

Sub-general hypothesis 3-1 was tested by three empirical hypotheses. Two of these three hypotheses were supported by the data at the selected significance level. The relationship of the empirical hypothesis which was not supported, however, was in the hypothesized direction. It can therefore be concluded that these data tentatively support Sub-general Hypothesis 3-1.

Sub-general Hypothesis 3-2: Satisfaction with certain selected physical aspects of the house is associated with the situational characteristic of age.

S.H. 3-2-1: There will be a relationship between the satisfaction with the adequacy of the number of rooms in the house and age.

E.H. 35: There will be a positive relationship between room adequacy score and the age score. The hypothesis stated in null form is: There will be no positive relationship between the room adequacy satisfaction score and the age score. The computed correlation coefficient is .572 which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 3-2-2: There will be a relationship between the satisfaction with the size of bedrooms and age.

E.H. 36: There will be a positive relationship between the bedroom size satisfaction score and the age score. The hypothesis stated in null form is: There will be no positive rela-

tionship between the bedroom size satisfaction score and the age score. The computed correlation coefficient is .102 which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 3-2-3: There will be a relationship between the satisfaction with the size of the living room and age.

E.H. 37: There will be a positive relationship between the size of the living room satisfaction score and age score. The hypothesis stated in null form is: There will be no positive relationship between the size of living room satisfaction score and the age score. The computed correlation coefficient is .188 which is significant. These data support the original proposition.

Two of the three empirical hypotheses used to test the Sub-general hypothesis 3-2 were supported by the data at the designated significance level. However, the relationship of the empirical hypothesis which was not supported was in the hypothesized direction. In general, it is judged that these data tentatively support Sub-general Hypothesis 3-2.

Sub-general Hypothesis 3-3: Satisfaction with certain selected physical aspects of the house is associated with the situational characteristic of family size and composition.

S.H. 3-3-1: There will be a relationship between the satisfaction with the adequacy of number of rooms in the house and family size and composition.

E.H. 38: There will be a negative relationship between room adequacy satisfaction score and the family compatability score. The hypothesis stated in null form is: There will be no negative relationship between the room adequacy satisfaction score and the family compatability score. The computed correlation coefficient is  $-.405$  which is significant. The null hypothesis is refuted. These data support the original proposition.

S.H. 3-3-2: There will be a relationship between the satisfaction with the size of the bedrooms and family size and composition.

E.H. 39: There will be a negative relationship between the bedroom size satisfaction score and the family compatability score. The hypothesis stated in null form is: There will be no negative relationship between the bedroom size satisfaction score and the family compatability score. The computed correlation coefficient is  $-.105$  which is not significant. The null hypothesis is not refuted. These data do not support the original proposition.

S.H. 3-3-3: There will be a relationship between the satisfaction with the size of the living room and family size and composition.

E.H. 40: There will be a negative relationship between the size of living room satisfaction score and the family compatability score. The hypothesis stated in null form is: There will be no negative relationship between the size of living room satisfaction score and the family compatability score. The computed correlation coefficient is  $-.136$

which is significant. The null hypothesis is refuted.

These data support the original proposition.

Sub-general hypothesis 3-3 was tested by three empirical hypotheses. Two of these three empirical hypotheses were supported by the data at the designated significance level. The relationship of the empirical hypothesis which was not supported, however, was in the hypothesized direction. It is concluded that in general these data tentatively support Sub-general Hypothesis 3-3.

#### Summary and discussion of the test of hypotheses

Having tested all the empirical hypotheses for statistical significance, the findings in the analysis of the three general hypotheses using the product moment correlation test will now be summarized and discussed.

General hypothesis one, which hypothesized an association between housing satisfactions and housing values, was tested by five empirical hypotheses, four of which were not supported. General hypothesis two, which hypothesized an association between housing values and certain situational characteristics, was tested by five sub-hypotheses. One of these sub-hypotheses was supported by its empirical hypotheses, two were tentatively supported and two were not. General hypothesis three, which hypothesized an association between housing satisfactions and certain situational characteristics, was tested by three sub-hypotheses. All three of these sub-hypotheses were tentatively supported by their empirical hypotheses.

However, it is pointed out that the empirical hypotheses which were statistically significant and thereby supported their respective sub-



hypotheses had nevertheless low coefficients of correlations. However, on the other hand, all the empirical hypotheses which were not supported by the data at the designated significance level, nevertheless had relationships in the hypothesized direction.

Two reasons seem to stand out which can be offered as explanations' for the lack of significant or only tentative support of a number of empirical hypotheses which were explicated and tested to ascertain the hypothesized relationship of the three general hypotheses.

One of these reasons could be theoretical. Very little conceptualization and research has been done to determine the important individual housing values which could have greatest pertinence for various specialized social groups. In order to explicate housing values which have the most relevance for specific groups being studied, sufficient past research and theory is needed. Sufficient research data and theory is lacking in this study to adequately determine the value concepts which would best represent the housing values of the special student group which constituted the population of the present study. Until factual data can be gathered to increase the body of knowledge concerning the value concepts which would best represent the housing values of diversified groups, a lack of significant empirical support or low empirical support for the theoretical hypotheses would be expected.

A second reason for the low empirical support may be methodological. One methodological reason which seems to have relevance here is that of the quality of the measuring instrument used. The scales constructed to operationalize the concepts of values and satisfactions as discussed and summarized in Table 17 and Table 27 herein, did not all meet the criteria

for additivity very well, thereby reflecting that the low validity of some of the scales could be a very plausible reason for the low empirical support of the hypotheses in general.

The other methodological reason which could be a contributory factor in the nonsignificance of a number of hypothesized relationships could be the nature of the population of this study. The sample in the study was very homogenous on most of the situational characteristics such as age, income, employment status, education and family size and composition. The variation was so small that many of the characteristics ceased to be variables. This appears to be an especially strong reason for the low empirical support of the second and third general hypotheses which pertained to the hypothesized relationships between situational characteristics and housing values and housing satisfactions.

It is the contention of the author, that the low empirical support of a number of the hypotheses and the rejection of others does not make the general hypotheses invalid. As pointed out earlier, the relationship of all the hypotheses which were not statistically supported were nevertheless in the hypothesized direction which bears testimony to the existence of an association between the variables. With theoretical and methodological refinements it may be possible to gain greater empirical support.

In conclusion, it is this author's opinion that the research reported in this dissertation may contribute to the understanding of the relationship between housing values, housing satisfactions and various situational characteristics. The success of this research, however, is dependent

upon its ability to stimulate and possibly direct the development and refinement of future research efforts in the general area of housing values and housing satisfactions.

In the next chapter a summary of the dissertation will be presented followed by suggestions for future research based on the findings of the present study.

## SUMMARY

A house plays a role much greater than that of mere physical protection. It is a physical structure of great significance, as Wheeler (99, p. 12) pointed out, "...it is a fundamental ecological relationship between the family and its home...the human and his environment." If houses are to be satisfying they should be built for the growth and development of the inhabitants. The thesis is that houses would be more satisfying to their occupants if the psycho-socio values of the individuals were considered in the planning and construction of their living units.

The main objective of this study was not to undertake a comprehensive survey to determine the housing values and satisfactions of different individuals, but rather it was to gain competency in measuring these housing values and satisfactions. Interest in the present study was limited to only family housing and more specifically to one type of family housing. It was felt that this knowledge about construction of indices could be advantageously used in conducting studies in the general area of housing in India which is of special interest to the author. Further, it was the author's contention that studies like the present one could lead to the development of a valid and reliable commercial housing value scale which could be used to assess the housing values of individuals and families. The various objectives of the study explicitly stated are:

1. To develop a theoretical rationale and conceptual framework depicting:
  - i. the influential role of the physical familial environment, the house, in the family setting and

- ii. the importance of human values in making housing decisions to attain the housing goals.
- 2. To gain familiarity with the general methodological procedures in scale construction and measurement.
- 3. To determine from wives of married students residing in one type of university housing:
  - i. their dominant housing values and the interrelations among these values, and
  - ii. their housing satisfactions with their living unit.
- 4. To investigate if there is any association between housing values and housing satisfactions.
- 5. To ascertain if there is any relationship between:
  - i. housing values and certain situational characteristics, and
  - ii. housing satisfactions and certain situational characteristics.

The views of Carreiro (15), Kennedy (42), Lemkau (54), Logan (57), Maslow (62) and Neutra (71, 72) were central in developing the general orientation of the study and diagrammatically depicting the influential role of the physical familial environment, the house, on the family.

The theoretical framework for this dissertation in general drew from the theories and conceptualizations of Adler (1), Catton (16), Golightly (29), Jacob and Flink (41), Kluckhohn (47), Morris (69, 70), Nye (75), Parsons and Shils (78), Scott (87) and Williams (100, 101 and 102). The concepts of value, satisfaction and situational characteristics were discussed and defined both at a general level and in relation to housing.

Several definitions and discussions of values set forth by various writers were reviewed and presented. The value concept as used in this study was Kluckhohn's (47) definition of value amended by Catton (16, p. 312) to read as, "A value is a conception of the desirable which is implied by a set of preferential responses to symbolic desiderata." It was proposed that values are abstract standards which represent an individual's concept of what should or ought to be, they are important guiding standards or criteria which can provide the basis for formulating goals but themselves are not goals. It was further suggested that values are hierarchical in character, some being more dominant or preferred than others, and they are not homogenously possessed by all individuals with the same intensity. However, values do not operate singly but form configurations with the other values held by the individual.

Literature relevant to housing values was reviewed, and seven housing values were selected for the present study.

The concept of satisfaction was also discussed. Schorr's (86, p. 15) definition of satisfaction, "...as the absence of complaint when opportunity for complaint is provided..." was considered most appropriate for this study. Besides some of the writers mentioned earlier, the conceptualization and research of Beyer (6), Beyer et al. (8), Cutler (20) and Montgomery et al. (68) were heavily drawn upon to conceptually present the importance of housing values in making housing decisions in order to attain satisfying housing goals.

The concept of situational characteristics was defined as characteristics external to the individual which may influence his behavior and

action. The situational characteristics considered in this study were age, income, education, family size and composition and employment status.

Three general hypotheses were derived from the general proposition which hypothesized a relationship between housing values, housing satisfactions and situational characteristics. These three hypotheses were:

General Hypothesis 1: Satisfactions of individuals with the specified aspects of their housing is associated with their specified housing values.

General Hypothesis 2: Specified housing values of individuals are associated with some of their situational characteristics.

General Hypothesis 3: Satisfactions of individuals with their entire house is associated with some of their situational characteristics.

The sample for this study consisted of 216 wives of students residing in University Village which is one of the three types of University housing available for married students and staff at Iowa State University. The data for this study were collected during the Spring of 1967 by personal interviews. The interview schedule had three main sections. The first section contained questions to elicit background information on various situational characteristics.

The second section contained questions on housing values which were to be answered on a five point continuum of strongly agree, agree, uncertain, disagree and strongly disagree in order to determine the intensity of the respondent's agreement or disagreement. This section also contained a forced choice question to determine the dominant values of the respondents as well as to check on the reliability of the subjects' responses given earlier on value questions. The third section had questions pertaining to the housing satisfaction of the respondents; these questions like the value questions were on a five point continuum.

The scoring of the responses was done by the equal interval method in which all items are scored positively with a score of equal intervals being awarded to all the items. In a positive item, the strongly agree secures the highest score and the strongly disagree the lowest, whereas, in a negative item it is vice versa.

The concepts of housing values and housing satisfactions were explicated and operationalized by seven housing value scales, four satisfaction scales and two satisfaction indices. Criteria suggested by Edwards (24) were used to construct the items for the value scales. To obtain more accurate measurement of the values and satisfactions, the scales constructed were examined for both internal and external validity and reliability. The three conditions used to evaluate the items of the scales for additivity, unidimensionality and reliability were:

1. To evaluate if the relationships among the responses of the different items were linear.
2. To evaluate if the variance of the responses to different items were homogeneous and independent of the means.
3. To evaluate if the intercorrelations among the items were positive and homogeneous.

All three conditions were evaluated by a number of arbitrary criteria.

The third major concept in this study was that of situational characteristics which was operationalized by five indices.

The findings relevant to this study were presented in three sections and are briefly summarized here:



1. Findings pertinent to the distribution of housing values and their interrelations revealed that of the seven values selected for this study, only six formed a configuration of individual's housing values. Almost all interrelationships among the value scales of familism, aesthetics, external privacy, internal privacy, mental health and internal convenience were statistically significant at the .05 level or greater. However it was interesting to note that none of the relationships between the economy scale and the other six scales were statistically significant. On the contrary all the interrelationships with the economy scale were negative, thereby indicating that the value of economy does not form a configuration with the other six housing values held by the respondents. The dominant housing values of respondents as determined by the forced choice technique were familism and internal convenience. In general, the values of internal privacy and aesthetics were also favorably held, but, external privacy and economy seemed to be the least important for the respondents in this study.
2. Findings related to the satisfaction of respondents with their living units, in general, reflected that the majority of the respondents are satisfied with their houses. Satisfaction was approximately equally divided between high and low on about half a dozen specific features of the house. Low satisfaction was indicated with laundry facilities and the materials used in the construction of floors, doors, windows and like features.

Almost all interrelationships among the scores of the four scales and two indices of satisfaction were statistically significant at the .05 level or greater. This findings suggests that the satisfaction with the various physical aspects of the house, of which the four scales and two indices were indicants, form a configuration of individuals housing satisfactions.

3. The findings related to the three general hypotheses indicated that the support of the three theoretical hypotheses was not very strong. General Hypothesis 1 was not supported by its empirical hypothesis. Of the five sub-hypotheses which were used to test General Hypothesis 2, one was supported by its empirical hypothesis, two were tentatively supported and two were not. General Hypothesis 3 was tested by three sub-hypotheses, all of which were tentatively supported by their empirical hypotheses.

The majority of the empirical hypotheses which were statistically significant, had nevertheless, low correlation coefficients. The empirical hypotheses which were not supported by the data at the designated significance level did show a relationship in the hypothesized direction.

It was pointed out that the low empirical support of the general hypotheses however, does not make these hypotheses void; instead theoretical and methodological explanations were given as possible reasons for the lack of significant or only tentative support of a number of the empirical hypotheses.

### Suggestions for Future Research

On the basis of the findings and some retrospective thinking, certain suggestions for future research will be given. These suggestions are made primarily on the basis of the principal weaknesses of the present research study as judged by the author.

One of the shortcomings of the present study is the homogeneous nature of the sample. In future research it is deemed necessary that a heterogeneous sample be used to determine the housing value of individuals and to test the relations between housing values, satisfactions and situational characteristics. It is further suggested that both husbands and wives be included in the sample as the values and satisfactions of both need to be considered if satisfying houses are to be provided for the family.

The field of methodology can further be made more precise as more sensitive scaling techniques are used and more rigorous methods of validity and reliability applied. One of the refined methods of studying construct validation which can be used to advantage is the factor analysis. Wolins and others' (104) scoring method is recommended as it makes a wider range of responses possible and therefore allows for more sensitive scoring.

In summary, it is the opinion of the author that this research can be developed and refined both theoretically and methodologically to direct future research efforts advantageously in the general area of housing values and housing satisfactions.

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APPENDIX A

Figure 5. Layout of the 300 apartments of University Village  
(268 of these apartments are Town House Type apartments)

UNIVERSITY VILLAGE

STANSE ROAD

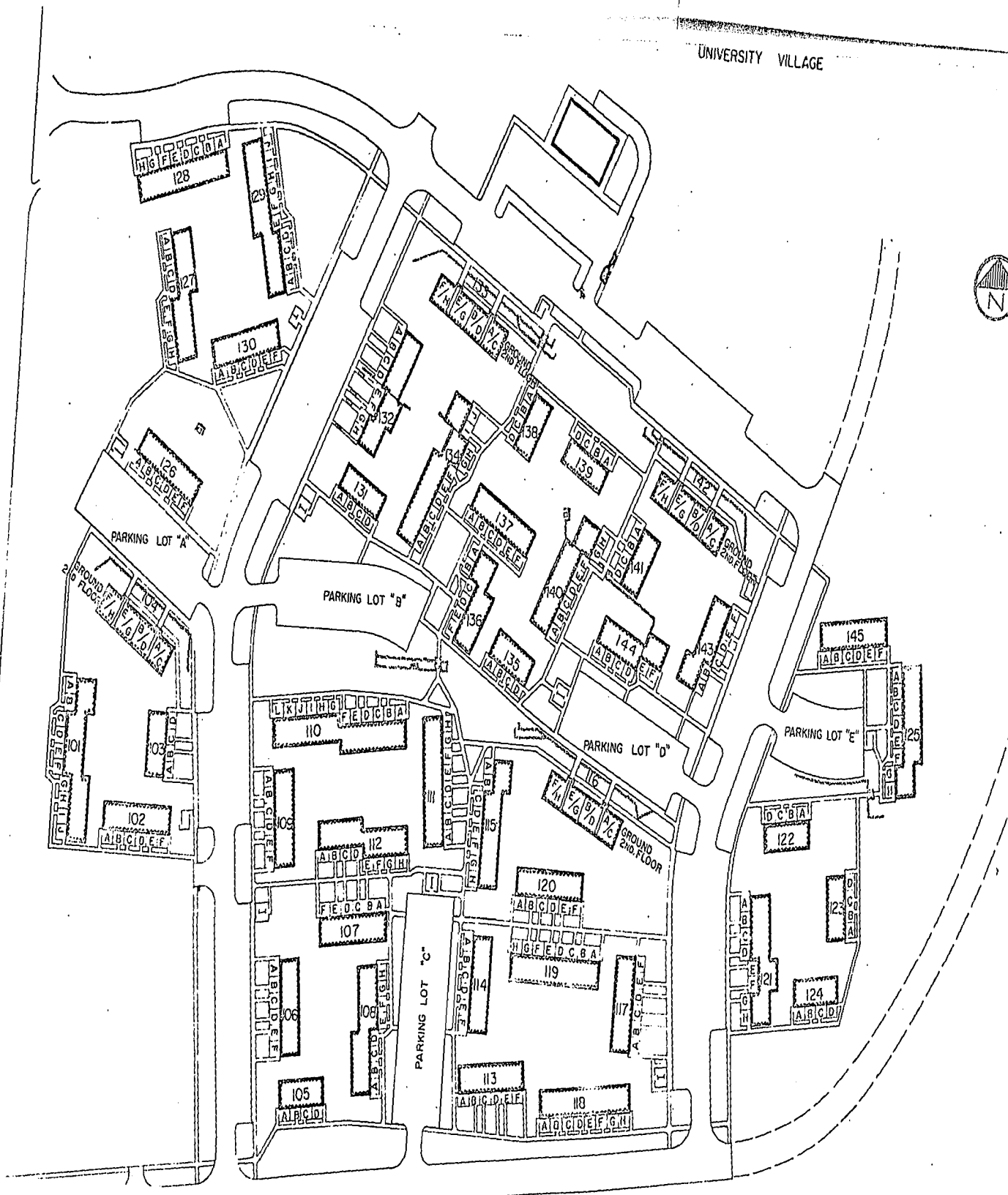




Figure 6. Dimensions and layout of the living room and kitchen which are on the first floor of the Town House apartments

Figure 7. Dimensions and layout of the bedrooms and bathroom which are on the second floor of the Town House apartments

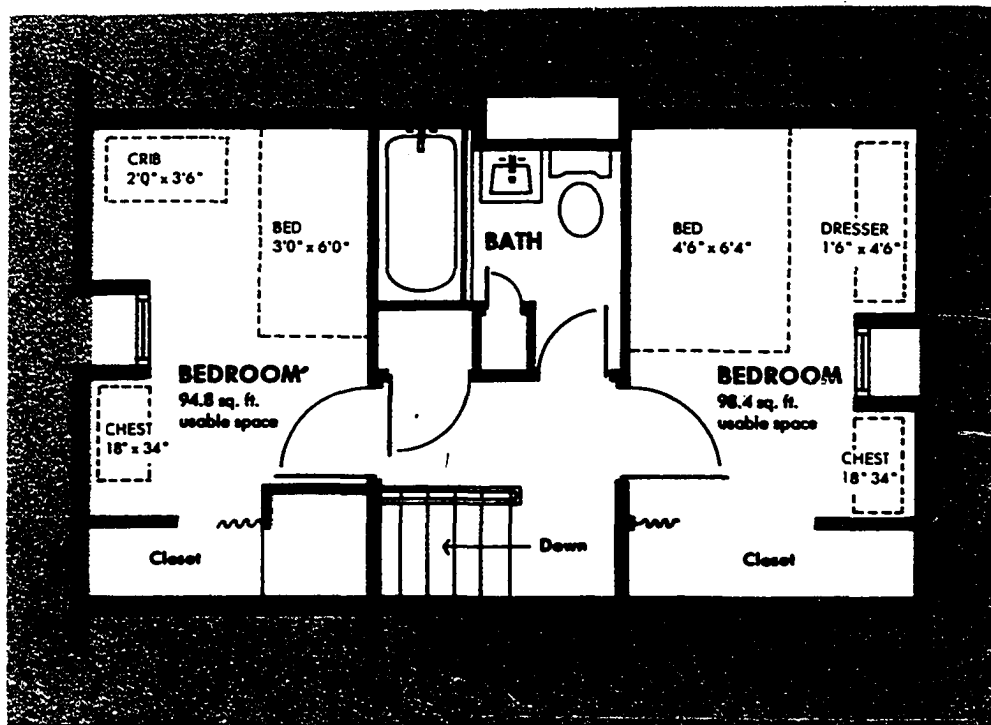
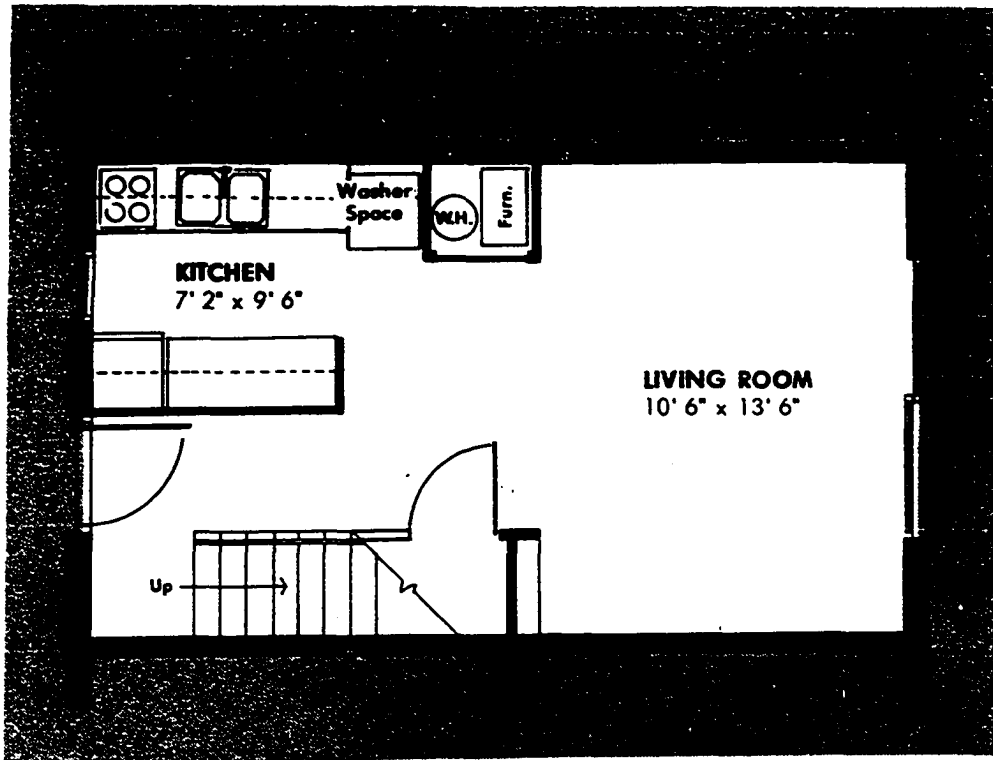


Figure 8. A view of the exterior, the units are designed in pairs to use common plumbing and chimney stacks. The exteriors depict the mansard roof made of shingles.

Figure 9. Another view of the same unit.

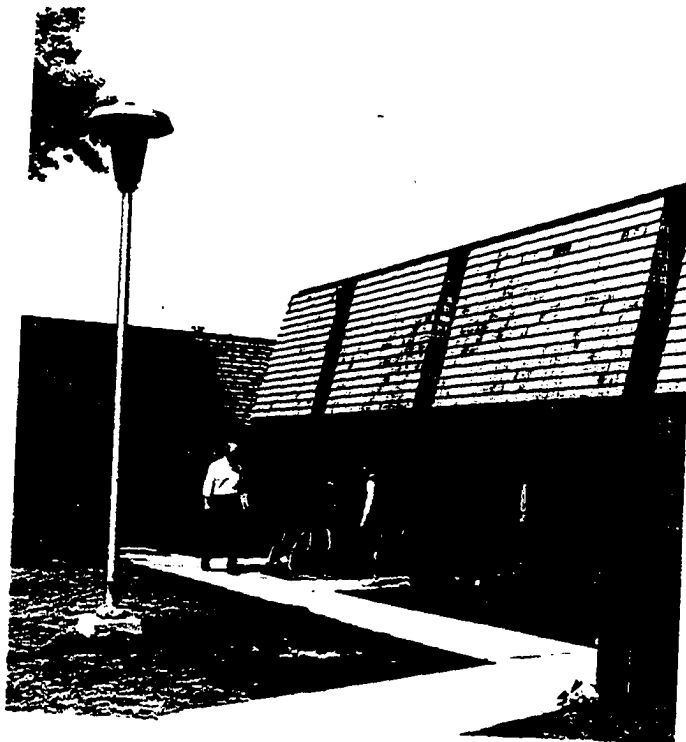


Figure 10. This figure illustrates 12 foot by 14 foot front entrance court to each Town House apartment.

Figure 11. This figure depicts the 7 feet 2 inches by 9 feet 6 inches kitchen which has 10 feet 6 inches of counter, range and refrigerator space. There is no partition between the kitchen and the living room.

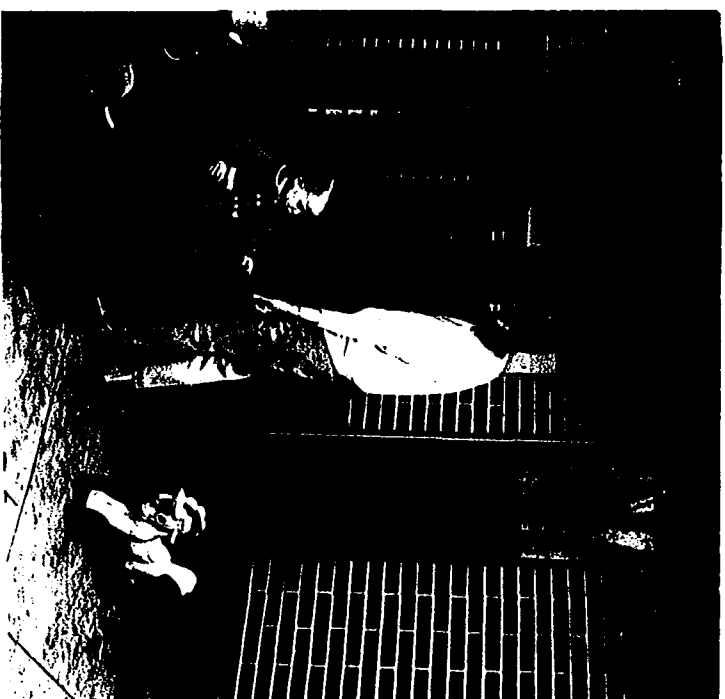


Figure 12. This figure depicts one view of a typical living room area. At the rear is seen the sliding glass door by which one has direct access to the outside.

Figure 13. This figure depicts another view of the living room area clearly showing the brick partition wall.





Figure 14. This figure illustrates the stairs leading to the second floor which are directly accessible from the house entrance.

Figure 15. This figure depicts the interior of the 5 feet by 7 feet bathroom which is located between the two bedrooms.



Figure 16. This figure illustrates the storage closets in the hallway on the first floor.

Figure 17. This figure depicts the interior of one of the two bedrooms. At the rear of the room is seen the brick partition wall.



## APPENDIX B

## Interview Schedule

Hello. I'm (       ) from the Department of Sociology and Anthropology. We are trying to determine the satisfactions of people with their housing. I will be asking you some questions about how satisfied you are with the house you are living in. There are no right or wrong answers; your opinion is what is important. I would like to assure you that any information you give me will remain absolutely confidential. Your name will not appear in our records.

(Record of calls):

Call	Date	Time of day call made	Results and suggestions
1st Call			
2nd Call			
3rd Call			
4th Call			

We are interviewing only those households where the husband is a student and where both husband and wife were born in the U.S.

(Interviewer: Mark "X" in appropriate box)

Is your husband a student?

(1) Yes

(2) No

Were you and your husband both born in the United States?

(1) Yes

(2) No

(At this point the interviewer must decide upon the eligibility of this household. The following must be followed closely.)

1. Terminate interview if husband is not a student.
2. Terminate interview if both husband and wife were not born in U.S.
3. If husband is a student and both husband and wife were born in U.S., interview wife. If wife not at home call back. Do not substitute anyone else for wife. It is important to interview the wife only.

Code No. \_\_\_\_\_

(leave blank)

Note to Interviewer: Ask the following questions and fill in the information in the below given table.

- 4A. In addition to you and your husband who else lives in this house?  
(Interviewer obtain list of children)
- 4B. Would you give us the age of each person of your family who lives in this house. What is the age of \_\_\_\_\_?

(4A)	(4B)
Family members	Age at last birthday
Husband	
Wife	
Children (Place by sex of each child)	X
Son(s) Daughter(s)	X

Note to interviewer: For the following questions mark "X" in appropriate boxes.

5. Which of these amounts of income is closest to the total amount of income you and your husband received from all sources during the year 1966.

(Interviewer: Show CARD 1 and indicate respondent's answer by marking "X" in appropriate box)

- (1) \$3,000 - \$3,499...
- (2) \$3,500 - \$3,999...
- (3) \$4,000 - \$4,499...
- (4) \$4,500 - \$4,999...
- (5) \$5,000 - \$5,499...
- (6) \$5,500 - \$5,999...
- (7) \$6,000 - \$6,499...
- (8) \$6,500 and above..

6. Are you employed outside the home?  
If "yes" how many hours?

- (1) No.....
- (2) Yes, less than 20  
hours.....
- (3) Yes, 20 hours -  
39 hours .....
- (4) Yes, 40 hours or  
more.....

7. What is your husband's classification in school?

- (1) Freshman.....
- (2) Sophomore.....
- (3) Junior.....
- (4) Senior.....
- (5) Special.... ..
- (6) Graduate.....



8. Are you presently enrolled in school?

(1) \*Yes.... .

(2) \*\*No.....

(If \*Yes on 8, ask):

9. What is your classification in school?

(1) Freshman.....

(2) Sophomore.....

(3) Junior.....

(4) Senior.....

(5) Special.....

(6) Graduate.....

(If \*\*No on 8, ask):

10. What was the highest year in school or college completed by you:

(1) Attended high school but did not complete it.....

(2) Completed high school.....

(3) Attended college but did not receive bachelor's degree...

(4) Received Bachelor's degree.....

(5) Some graduate work..

(6) Other - Some special training or education beyond high school..

(7)

Note to interviewer: Precede questions with statements such as following:

Now I am going to read to you a number of statements about family homes. Some people believe these statements describe the way in which they feel about homes, others do not. I will show you a card, and read a statement, would you then tell me whether you strongly agree with the description, agree with it but not strongly, whether you disagree with it, or whether you strongly disagree with it?

Next, SHOW CARD 2 to respondent, read question from interview schedule and ask respondent to point out her choice on the card indicating whether she strongly agrees, agrees, disagrees, or strongly disagrees with the statement. Use 'UNCERTAIN' only if respondent is not able to state agreement or disagreement. Mark "X" in appropriate box for each statement.

#### 11. FAMILISM

- a. A good house for families like mine is one in which family members can spend their time together.

(1) STRONGLY AGREE.....  
 (2) AGREE .....  
 (3) UNCERTAIN.....  
 (4) DISAGREE .....  
 (5) STRONGLY DISAGREE.....

- b. A good house for families like mine is one which has enough room for our parents to come and spend week-ends or holidays with us.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN .....  
 (4) DISAGREE .....  
 (5) STRONGLY DISAGREE.....

- c. A good house for families like mine is one which has enough room for relatives to get together.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- d. A good house for families like mine is one which has enough room so that if it became necessary one of our parents could stay with us for a month.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- e. A good house for families like mine is one which has enough room so that if necessary a younger brother or sister could stay with us for one quarter while getting started at the university.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

## 12. ECONOMY (in terms of money)

- a. Many families like mine have to spend entirely too much of their income on housing

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- b. A house which has lower rent than our present one, even though it did not have some of the conveniences of our present house would be more desirable.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- c. A family like mine would not mind spending a little money occasionally on a rented house in order to make living in it more comfortable.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- d. Many families like mine think too much about the cost of their housing and don't pay enough attention to other amenities.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....

- e. A good house for a family like mine is one for which one has to pay the least possible rent.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN .....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....

### 13. AESTHETICS

- a. A good house for families like mine is one which is pleasing to look at
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- b. A good house for families like mine is one which has a garden around it.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....

- c. For families like mine, an attractively decorated and furnished house adds much to the joy of living.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- d. A good house for families like mine is one which reflects good workmanship.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- e. A good house for families like mine is one which emphasizes simplicity and harmony in architecture.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

#### 14. EXTERNAL PRIVACY

- a. A good house for families like mine is one which is screened from the highway and main streets.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN .....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE.....

- b. A good house for families like mine  
is one which is located in an entirely  
residential locality.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- c. A good house for families like mine  
is one which is screened from the  
direct scrutiny of passer-bys.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- d. A good house for families like mine  
is one which is screened from the  
neighboring houses.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- e. A good house for families like mine  
is one in which people when on the  
second floor cannot see into the  
yards of the families other than  
their own.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) STRONGLY DISAGREE.....

## 15. INTERNAL PRIVACY

- a. A good house for families like mine is one in which the rooms are so arranged that one does not have to cross one room to get to another.

(1) STRONGLY AGREE.....  
(2) AGREE.....  
(3) UNCERTAIN.....  
(4) DISAGREE.....  
(5) STRONGLY DISAGREE.....

- b. A good house for families like mine is one in which the parents do not have to share their bedroom with their child or children.

(1) STRONGLY AGREE.....  
(2) AGREE.....  
(3) UNCERTAIN.....  
(4) DISAGREE.....  
(5) STRONGLY DISAGREE.....

- c. A good house for families like mine is one in which school age children of the opposite sex do not have to share bedrooms with each other.

(1) STRONGLY AGREE.....  
(2) AGREE.....  
(3) UNCERTAIN.....  
(4) DISAGREE.....  
(5) STRONGLY DISAGREE.....



- d. A good house for families like mine is one in which voices do not carry too freely from one room to another.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE....

- e. A good house for families like mine is one which has an entry hall so that callers do not enter directly into the living room.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE....

#### 16. MENTAL HEALTH

- a. A good house for families like mine is one which gives me a feeling of orderliness.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE....

- b. A good house for families like mine is one which gives me a feeling of calmness.

(1) STRONGLY AGREE.....  
 (2) AGREE.....  
 (3) UNCERTAIN.....  
 (4) DISAGREE.....  
 (5) STRONGLY DISAGREE....

- c. A good house for families like mine  
is one which has some place where  
I can be alone when I am upset.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE....
- d. A good house for families like mine  
is one which has some space where  
I could work on a hobby or project  
and leave it set up while I am  
not working on it.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE....
- e. A good house for families like  
mine is one in which I and my hus-  
band can spend daytime hours together  
occasionally without interrup-  
tion from the children.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE....
17. INTERNAL CONVENIENCE
- a. A good house for families like mine is  
one which is easy to keep clean.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE....

- b. A good house for families like mine is one which has enough storage space.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- c. A good house for families like mine is one in which the kitchen is readily accessible from the entrance door.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- d. A good house for families like mine is one in which the temperature in the different rooms of the house can be regulated separately.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....
- e. A good house for families like mine is one which has laundry space separate from the kitchen.
- (1) STRONGLY AGREE.....
- (2) AGREE.....
- (3) UNCERTAIN.....
- (4) DISAGREE.....
- (5) STRONGLY DISAGREE.....

18. People feel differently about what is important in housing. I will show you a list of characteristics. (SHOW CARD 3 to respondent and ask:) Now which of these characteristics do you consider most important? Which is second most important? Which is third most important?

(Note to interviewer: For statement considered most important by respondent, write "1" in the box to the right of it; for statement considered second most important write "2" in the box; for third most important write "3" in the box.

- a. If the house has the amenities and facilities for the family to spend time together.....
- b. If the house is economical in terms of rent.....
- c. If the house satisfies the family's desire for attractive things.....
- d. If the house affords privacy from neighbors, main roads and streets.....
- e. If privacy is possible within the house.....
- f. If the house has some place where one can be free from the interruption of family members.....
- g. If the house has internal convenience.....

Note to interviewer: For the following questions 19 to 43 (except question 29), SHOW CARD 4 to respondent. Read each question and the 5 statements following it. Ask respondent to indicate her choice. Mark "X" in appropriate box.

#### Location

19. Which one of the following best describes the way in which you feel about the location of this housing project with respect to college campus and schools for children.
- (1) I am very satisfied, the location of this housing project is ideal.....
  - (2) I am satisfied, the location of this housing project is all right.....
  - (3) I am partly satisfied, partly dissatisfied, the location of this housing project is all right but a better one would be more desirable .....

- (4) I am dissatisfied, the location of this housing project is poor.
- (5) I am very dissatisfied, the location of this housing project is extremely poor.

#### Exteriors

20. Which of the following best describes the way in which you feel about the exterior of your house with respect to its attractiveness.

- (1) I am very satisfied, the outside of the house has a very attractive appearance
- (2) I am satisfied, in general the external appearance of the house is all right
- (3) I am partly satisfied, partly dissatisfied, the external appearance of the house could be better
- (4) I am dissatisfied, the exterior of the house is dull and unattractive
- (5) I am very dissatisfied, the external appearance of the house is extremely unattractive

21. Which of the following best describes the way in which you feel about the exteriors with respect to common open space around your block of houses.

- (1) I am very satisfied, the amount of common open space around our block of houses is ideal
- (2) I am satisfied, the amount of common open space around our block of houses is all right
- (3) I am partly satisfied, partly dissatisfied, the amount of common open space around our block of houses is fairly good, but it would be better if we had some more open space
- (4) I am dissatisfied, the amount of common open space around our block of houses is inadequate
- (5) I am very dissatisfied, the existing amount of common open space around our block of houses is extremely insufficient

22. Which of the following best describes the way in which you feel about the exterior of your house with respect to privacy.
- (1) I am very satisfied, the house is ideally screened from the street and neighbors
  - (2) I am satisfied, the house is adequately screened from the street and neighbors
  - (3) I am partly satisfied, partly dissatisfied, I feel that the external privacy from the streets and neighbors could be improved by better screening
  - (4) I am dissatisfied, the house is poorly screened to provide external privacy
  - (5) I am very dissatisfied, feel most unhappy with the way the house is screened from the streets and neighbors
23. Which of the following best describes the way in which you feel about the exteriors with respect to the size of the enclosed front yard of your house.
- (1) I am very satisfied, the size of the front yard of our house is ideal
  - (2) I am satisfied, the size of our front yard is all right
  - (3) I am partly satisfied, partly dissatisfied, the size of our front yard is fairly good, but it would be better if it were larger
  - (4) I am dissatisfied, the size of our front yard is inadequate
  - (5) I am very dissatisfied, the size of our front yard is extremely small

#### Entrances

24. Which of the following best describes the way in which you feel about the conveniences and safety of the front entrance of your house.
- (1) I am very satisfied, the front entrance is ideal
  - (2) I am satisfied, the front entrance is all right
  - (3) I am partly satisfied, partly dissatisfied, feel that the front entrance is almost right but some improvements would make it more desirable

- (4) I am dissatisfied, the front entrance is poor
- (5) I am very dissatisfied, strongly feel that the front entrance is extremely poor

#### Interiors

25. Which of the following best describes the way in which you feel about the interior of your house with respect to the adequacy of number of rooms.

- (1) I am very satisfied, feel that the number of rooms in this house is just ideal
- (2) I am satisfied, the number of rooms in this house is adequate
- (3) I am partly satisfied, partly dissatisfied, feel that there are almost enough rooms but more would be desirable
- (4) I am dissatisfied, the number of rooms in this house is insufficient
- (5) I am very dissatisfied, there are definitely very few rooms in this house

26. Which of the following best describes the way in which you feel about the interior of your house with respect to the size of the different rooms.

Note to interviewer: Repeat the following statements 1 through 5 for the living room and each of the 4 different rooms inserting one of the names at each reading. The rooms are 1. living room, 2. bed rooms, 3. bathroom, 4. kitchen.

EXAMPLE: SHOW CARD 4 and ask: "I am very satisfied, feel the size of the living room is ideal". Read the other 4 statements for the living room.

Indicate respondent's choice of statement concerning living room by writing the number that precedes the statement next to living room in the table (table on next page). Repeat the five statements 4 times more for the other 4 rooms and complete table.

- (1) I am very satisfied, feel the size of the \_\_\_\_\_ is ideal
- (2) I am satisfied, feel the size of the \_\_\_\_\_ is all right

- (3) I am partly satisfied, partly dissatisfied, feel that the size of the \_\_\_\_\_ is almost right but some improvements would be desirable
- (4) I am dissatisfied, feel that the size of the \_\_\_\_\_ is small and changes are required for improvement
- (5) I am very dissatisfied, feel that the size of the \_\_\_\_\_ is extremely small and definitely needs improvement

Table

Type of room	Size
Living room	
Bedrooms	
Bath room	
Kitchen	

27. Which of the following best describes the way in which you feel about the interior of your house with respect to the shape of the different rooms. (Note: for getting response to 27, use the same method as for question 26.)

- (1) I am very satisfied, feel the shape of the \_\_\_\_\_ is ideal
- (2) I am satisfied, feel the shape of the \_\_\_\_\_ is all right
- (3) I am partly satisfied, partly dissatisfied, feel that the shape of the \_\_\_\_\_ is almost right but some improvements would be desirable
- (4) I am dissatisfied, feel that the shape of the \_\_\_\_\_ is poor and changes are required for improvement
- (5) I am very dissatisfied, feel that the shape of the \_\_\_\_\_ is extremely poor and definitely needs improvement

Type of room	Shape
Living room	
Bedrooms	
Bath room	
Kitchen	



28. Which of the following best describes the way in which you feel about the interiors of your house with respect to the facilities for washing and drying clothes.
- (1) I am very satisfied, feel the washing and drying facilities in this house are just ideal
  - (2) I am satisfied, feel the washing and drying facilities in this house are adequate
  - (3) I am partly satisfied, partly dissatisfied, feel that the washing and drying facilities in this house are almost adequate but some improvements would be more desirable
  - (4) I am dissatisfied, the washing and drying facilities in this house are inadequate
  - (5) I am very dissatisfied, the washing and drying facilities in this house are definitely inadequate
29. Which of the following plans for washing and drying clothes do you think would be best for your family.
- (1) Space in the apartment for both a washer and dryer
  - (2) Conveniently located community laundry room shared by about eight families
  - (3) One or two large community laundries for the whole of university village
30. Which of the following best describes the way in which you feel about the interior of your house with respect to the location of doors and windows from the point of view of light, ventilation and privacy.
- (1) I am very satisfied, feel that the doors and windows are ideally located
  - (2) I am satisfied, feel that the doors and windows are located right
  - (3) I am partly satisfied, partly dissatisfied, feel that the doors and windows are located almost right but some changes would be more desirable
  - (4) I am dissatisfied, feel that the location of doors and windows is poor

- (5) I am very dissatisfied, feel that the location of doors and windows is extremely poor

31. Which of the following best describes the way in which you feel about the interior of your house with respect to the adequacy of storage space in kitchen.

- (1) I am very satisfied, feel that the amount of storage space provided in the kitchen is ideal
- (2) I am satisfied, the storage space provided in the kitchen is adequate
- (3) I am partly satisfied, partly dissatisfied, feel that there is almost enough storage space in the kitchen but more would be desirable
- (4) I am dissatisfied, feel that the amount of storage space provided in the kitchen is inadequate
- (5) I am very dissatisfied, strongly feel that the amount of storage space provided in the kitchen is extremely poor

32. Which of the following best describes the way in which you feel about the interior of your house with respect to the convenience of storage space in the kitchen.

- (1) I am very satisfied, the cabinets in the kitchen are ideally located
- (2) I am satisfied, the cabinets in the kitchen are located right
- (3) I am partly satisfied, partly dissatisfied, the location of the cabinets in the kitchen is almost right but some changes would be desirable
- (4) I am dissatisfied, the location of the cabinets in the kitchen is poor
- (5) I am very dissatisfied, the location of the cabinets in the kitchen is extremely poor

33. Which of the following best describes the way in which you feel about the arrangement of the kitchen with respect to the sink, range and refrigerator.

- (1) I am very satisfied, the existing arrangement is ideal
- (2) I am satisfied, the existing arrangement is all right

- (3) I am partly satisfied, partly dissatisfied, the existing arrangement is workable but a different one would be more desirable
  - (4) I am dissatisfied, I do not like the existing arrangement
  - (5) I am very dissatisfied, the existing arrangement is extremely undesirable
34. Which of the following best describe the way in which you feel about the interior of your house with respect to the arrangement of fixtures (bath tub, shower, stool, basin) in the bathroom.
- (1) I am very satisfied, the arrangement of fixtures in the bathroom is ideal
  - (2) I am satisfied, the arrangement of fixtures in the bathroom is all right
  - (3) I am partly satisfied, partly dissatisfied, the arrangement and fixtures in the bathroom are almost right but a few changes would be desirable
  - (4) I am dissatisfied, the arrangement of fixtures in the bathroom is poor
  - (5) I am very dissatisfied, the arrangement of fixtures in the bathroom is extremely poor
35. Which of the following best describes the way in which you feel about the interior of your house with respect to the number, size and location of closets and other storage space in the house.
- (1) I am very satisfied, the storage facilities in the house are ideal
  - (2) I am satisfied, the storage facilities in the house are all right
  - (3) I am partly satisfied, partly dissatisfied, the storage facilities are almost right but a few changes would be desirable
  - (4) I am dissatisfied, the storage facilities in the house are poor
  - (5) I am very dissatisfied, the storage facilities in the house are extremely poor

36. Which of the following best describes the way in which you feel about the interior of your house with respect to safety of the stair case
- (1) I am very satisfied, the stair case is ideal
  - (2) I am satisfied, the stair case is all right
  - (3) I am partly satisfied, partly dissatisfied, the stair case is almost right but some changes would be desirable
  - (4) I am dissatisfied, the stair case is not safe
  - (5) I am very dissatisfied, the stair case is extremely unsafe
37. Which of the following best describes the way in which you feel about the interior of your house with respect to the existing plan in which the bedrooms and bath are on the second floor and the cooking, dining, washing, and living areas are on the first floor.
- (1) I am very satisfied, the existing plan is ideal
  - (2) I am satisfied, the existing plan is all right
  - (3) I am partly satisfied, partly dissatisfied, the existing plan is workable but a one-floor plan would be more desirable
  - (4) I am dissatisfied, I do not like the existing plan
  - (5) I am very dissatisfied, the existing plan is extremely undesirable, would definitely prefer a one floor plan
38. Which of the following best describes the way in which you feel about the overall interior design of the house with respect to keeping it cool and comfortable during summer.
- (1) I am very satisfied, the overall design of the house for keeping the house cool and comfortable in summer is ideal
  - (2) I am satisfied, the overall design of the house for keeping the house cool and comfortable in summer is adequate.
  - (3) I am partly satisfied, partly dissatisfied, feel that the overall design for keeping the house cool and comfortable in summer is all right but some changes would be more desirable

(4) I am dissatisfied, feel that the overall design of the house is poor in order to be able to keep it cool and comfortable in summer

(5) I am very dissatisfied, feel that the overall design of the house is extremely poor in order to be able to keep it cool and comfortable

39. Which of the following best describes the way in which you feel about the interior of your house with respect to materials used for floors, doors, cupboards, etc., from the standpoint of ease of maintenance.

(1) I am very satisfied, the materials used are ideal

(2) I am satisfied, the materials used are all right

(3) I am partly satisfied, partly dissatisfied, the materials used are almost right but some changes would be desirable

(4) I am dissatisfied, I do not like the materials used

(5) I am very dissatisfied, the materials used are extremely poor

40. Which of the following best describes the way in which you feel about the interior of your house with respect to materials used for floors, doors, cupboards, etc., from the standpoint of durability.

(1) I am very satisfied, the materials used are ideal

(2) I am satisfied, the materials used are all right

(3) I am partly satisfied, partly dissatisfied, the materials used are almost right but some changes would be desirable

(4) I am dissatisfied, I do not like the materials used

(5) I am very dissatisfied, the materials used are extremely poor

#### Housing Utilities

41. Which of the following best describes the way in which you feel about the utilities of your house with respect to the adequacy and quality of the heating system.

(1) I am very satisfied, the heating system is ideal

(2) I am satisfied, the heating system is all right

(3) I am partly satisfied, partly dissatisfied, the heating system in this house is almost right but a few changes would be desirable

(4) I am dissatisfied, the heating system in this house is poor

(5) I am very dissatisfied, the heating system in this house  
is ~~e~~xtremely poor

42. Which of the following best describes the way in which you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets.

Note to interviewer: For questions 42 and 43 repeat the following statements 1 through 5 three times, inserting one of the names at each reading. The 3 names to be inserted are (1) kitchen, (2) bathroom, (3) whole house. EXAMPLE: SHOW CARD 4 and ask: "I am very satisfied, the number of lights and wall outlets in the kitchen are ideal". Read the other 4 statements for the kitchen.

Indicate respondent's choice of statement concerning: kitchen, bathroom and whole house by marking "X" in appropriate box under column "K", "B" and "H" respectively.

K      B      H

- (1) I am very satisfied, the number of lights and wall outlets in the \_\_\_\_\_ is ideal
- (2) I am satisfied, the number of lights and wall outlets in \_\_\_\_\_ is all right
- (3) I am partly satisfied, partly dissatisfied, the number of lights and wall outlets in \_\_\_\_\_ is almost right but a few more would be desirable
- (4) I am dissatisfied, the number of lights and wall outlets in \_\_\_\_\_ is inadequate
- (5) I am very dissatisfied, the number of lights and wall outlets in \_\_\_\_\_ is definitely inadequate
43. Which of the following best describes the way in which you feel about the locations of the lights and wall outlets.
- (1) I am very satisfied, the locations of the lights and wall outlets in the \_\_\_\_\_ are ideal
- (2) I am satisfied, the locations of the lights and wall outlets in the \_\_\_\_\_ are all right
- (3) I am partly satisfied, partly dissatisfied, the locations of lights and wall outlets in the \_\_\_\_\_ are almost right but a few changes would be desirable
- q

- (4) I am dissatisfied, the locations of lights  
and wall outlets in the \_\_\_\_\_ are poor
- (5) I am very dissatisfied, the locations of  
lights and wall outlets \_\_\_\_\_ are extremely  
poor

TO BE FILLED IN BY INTERVIEWER AT END OF INTERVIEW

44. COOPERATIVENESS OF RESPONDENT:

- (1) NOT COOPERATIVE
- (2) SOMEWHAT COOPERATIVE
- (3) VERY COOPERATIVE

45. INTEREST OF RESPONDENT:

- (1) UNINTERESTED
- (2) SOMEWHAT INTERESTED
- (3) VERY INTERESTED

Interviewer's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Figure 18. This figure depicts the four point continuum used to elicit the intensity of the agreement or disagreement of respondents with each of the housing value items.



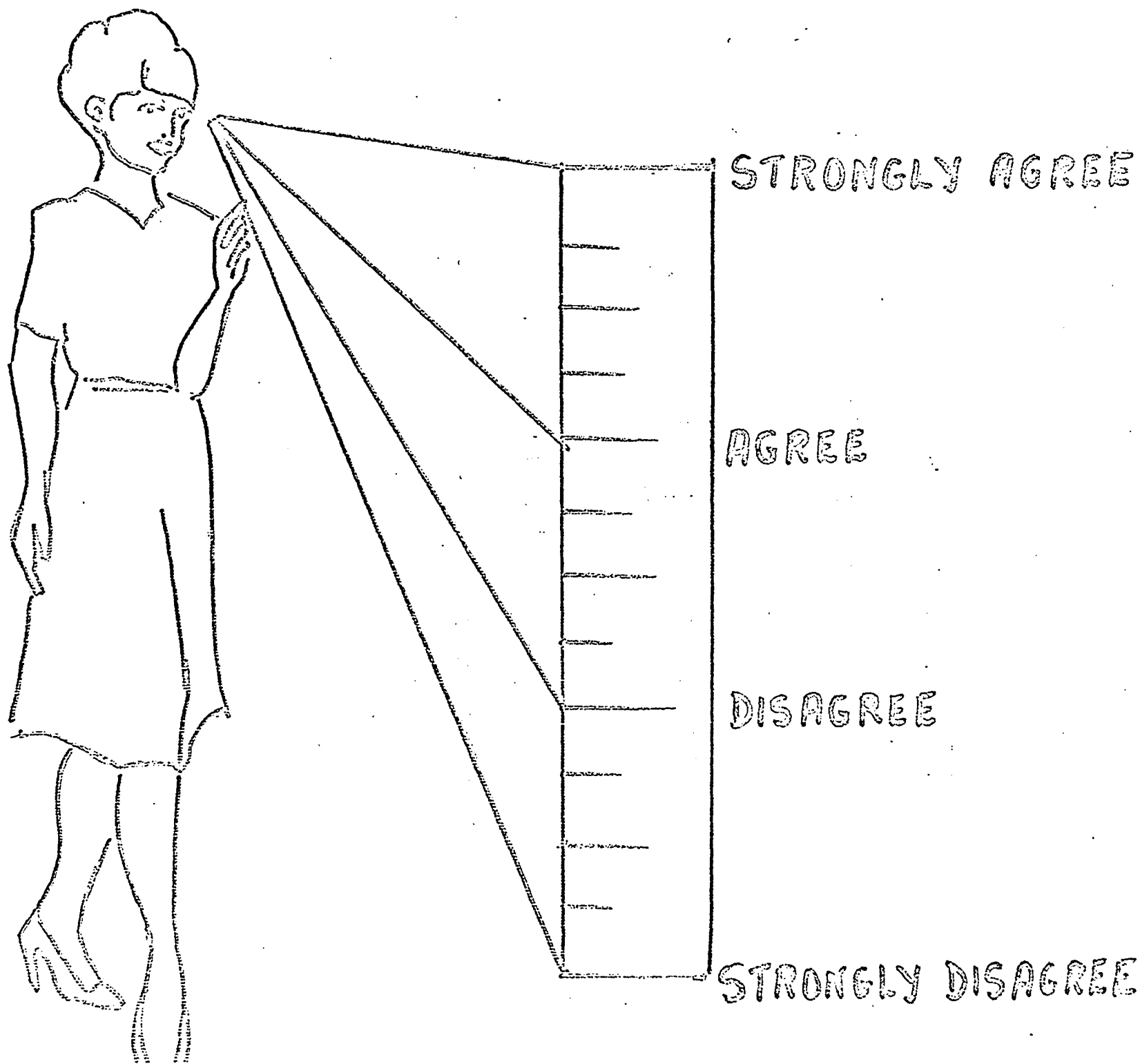
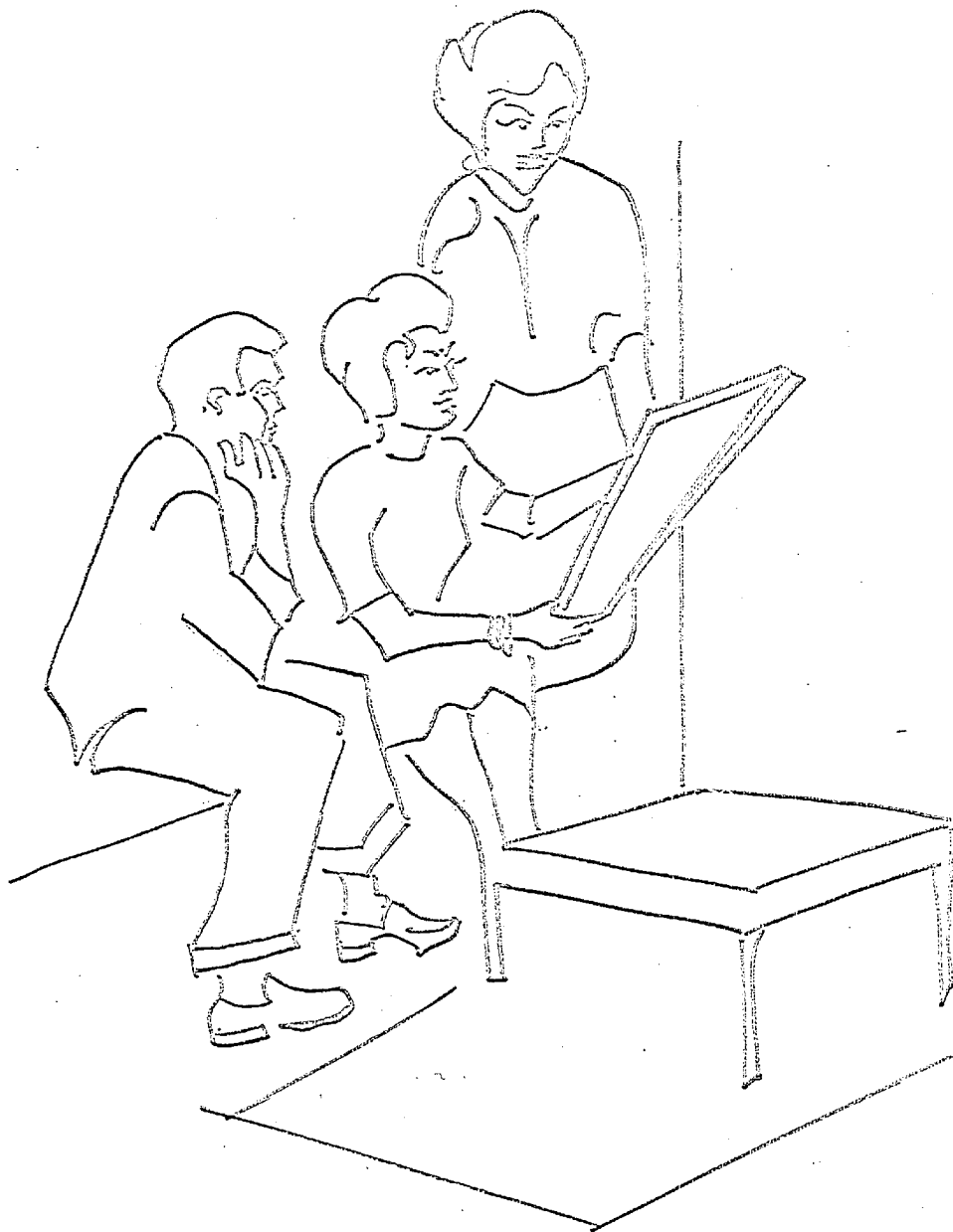
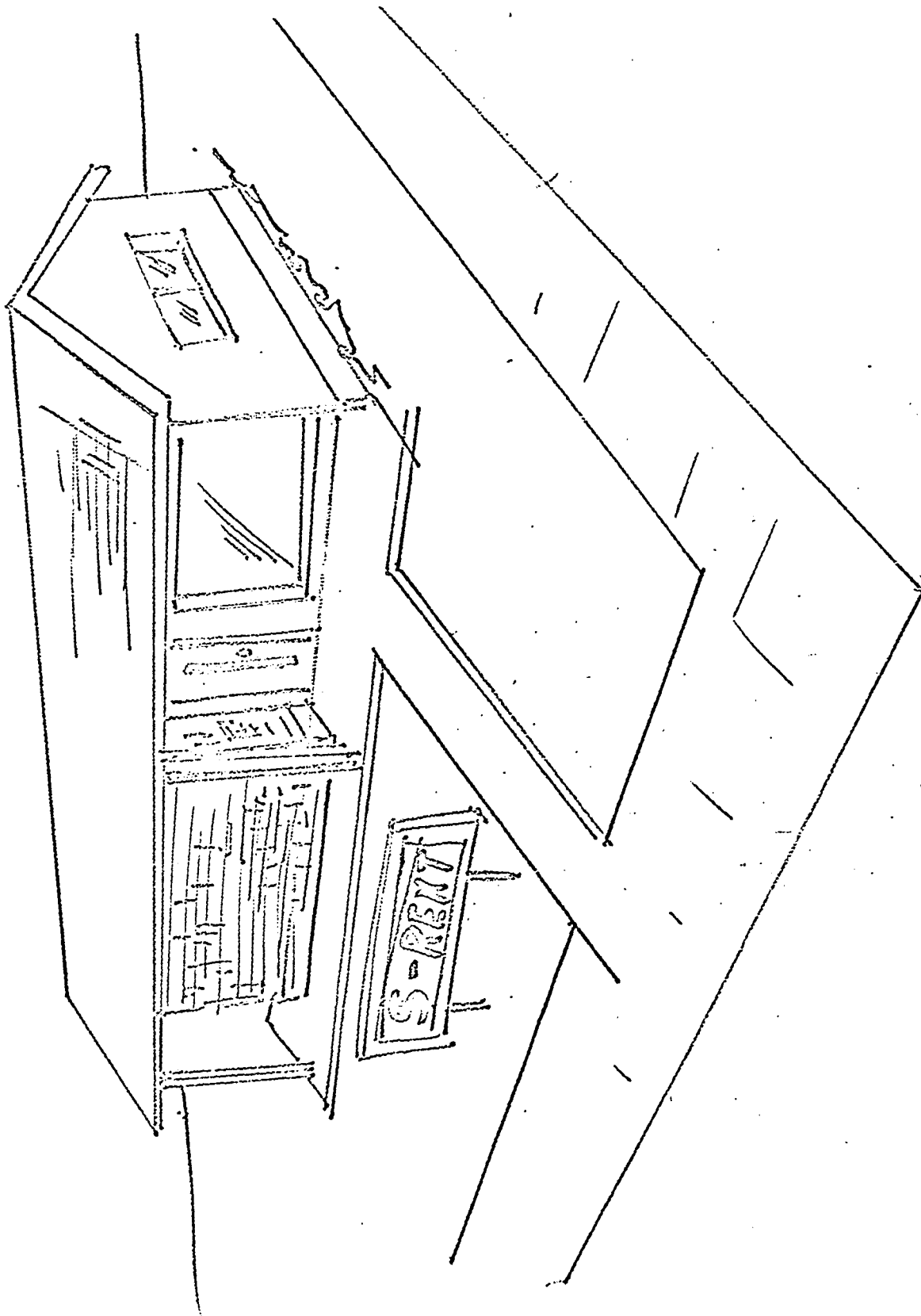


Figure 19. This figure depicts the value of family centrism and was used to elicit responses in the forced choice technique.



IF THE HOUSE HAS SPACE FOR FAMILY TO  
SPEND TIME TOGETHER

Figure 20. This figure depicts the value of economy and was used to elicit responses in the forced choice technique.



IF THE HOUSE IS ECONOMICAL IN TERMS OF RENT.

Figure 21. This figure depicts the value of aesthetics and was used to elicit responses in the forced choice technique.

IF THE HOUSE SATISFIES THE FAMILY'S  
DESIRE FOR ATTRACTIVE THINGS

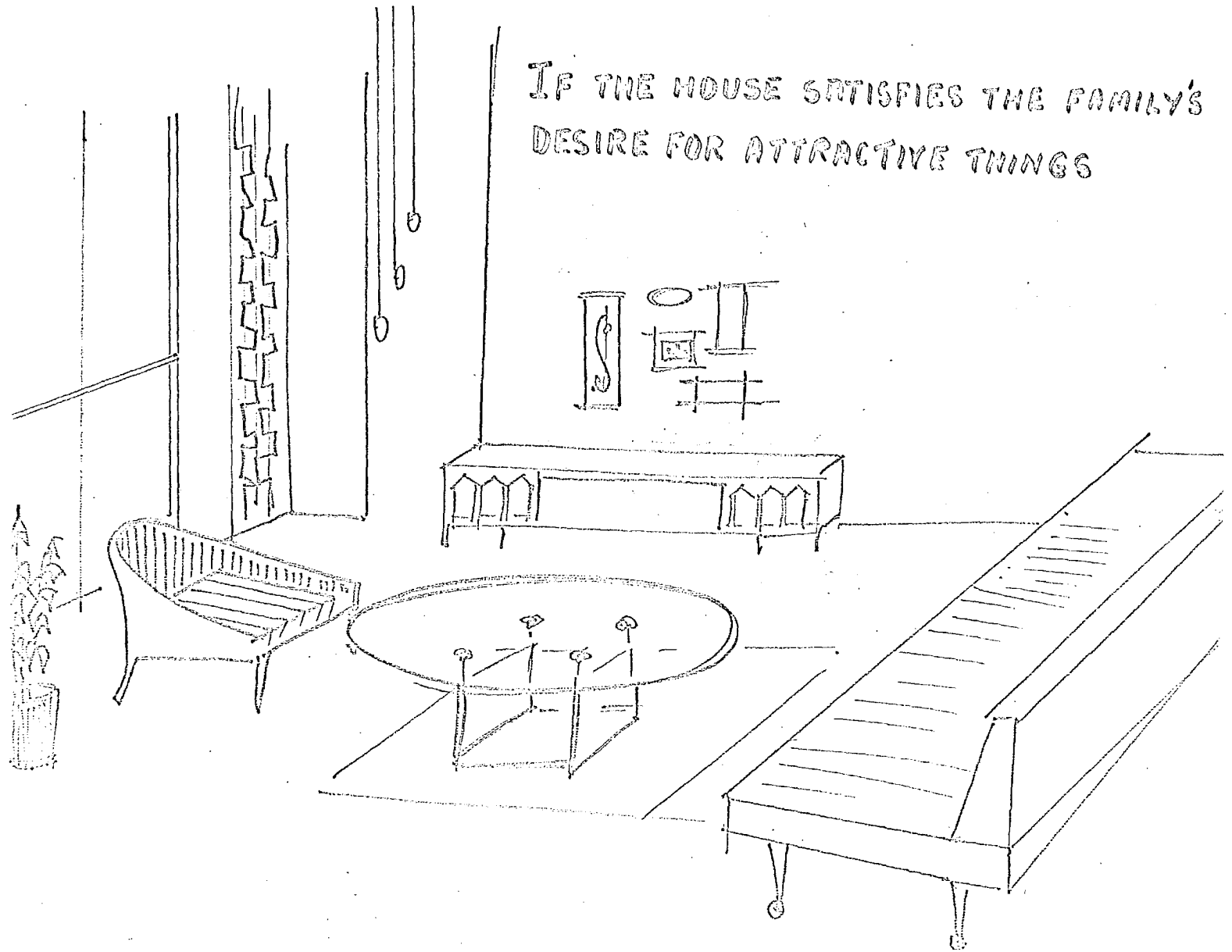
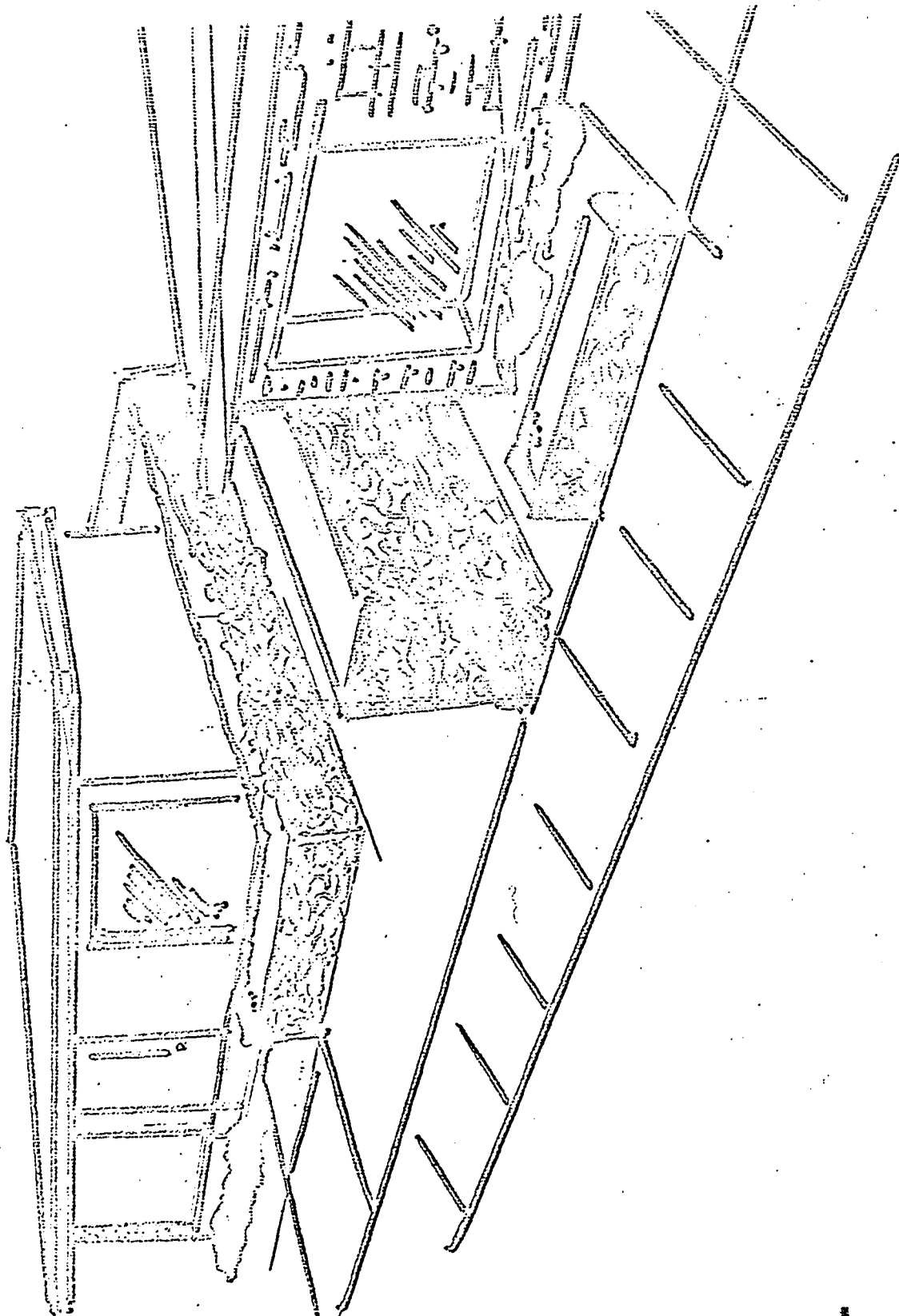


Figure 22. This figure depicts the value of external privacy and was used to elicit responses in the forced choice technique.

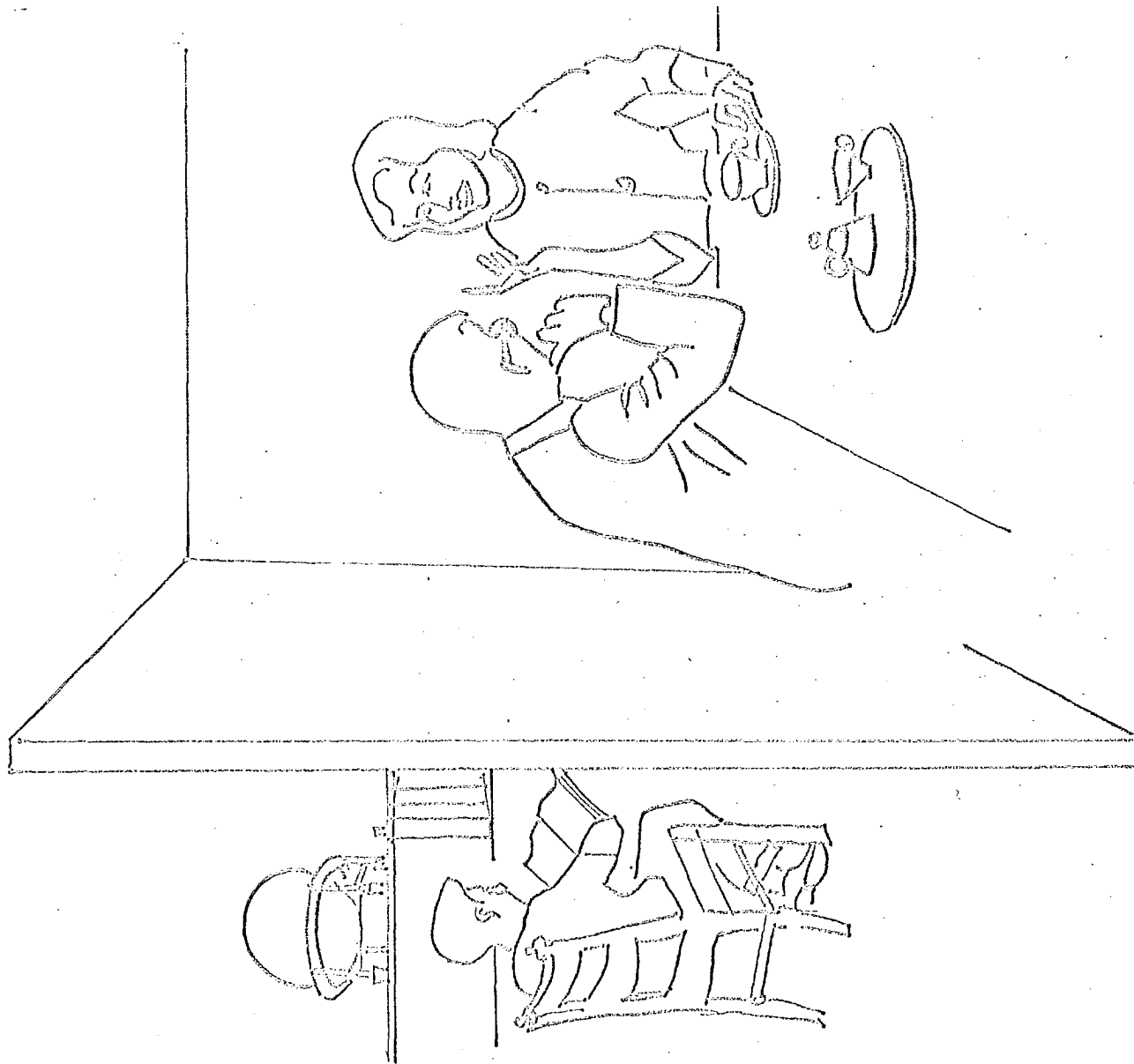




IF THE HOUSE AFFORDS PRIVACY FROM NEIGHBORS

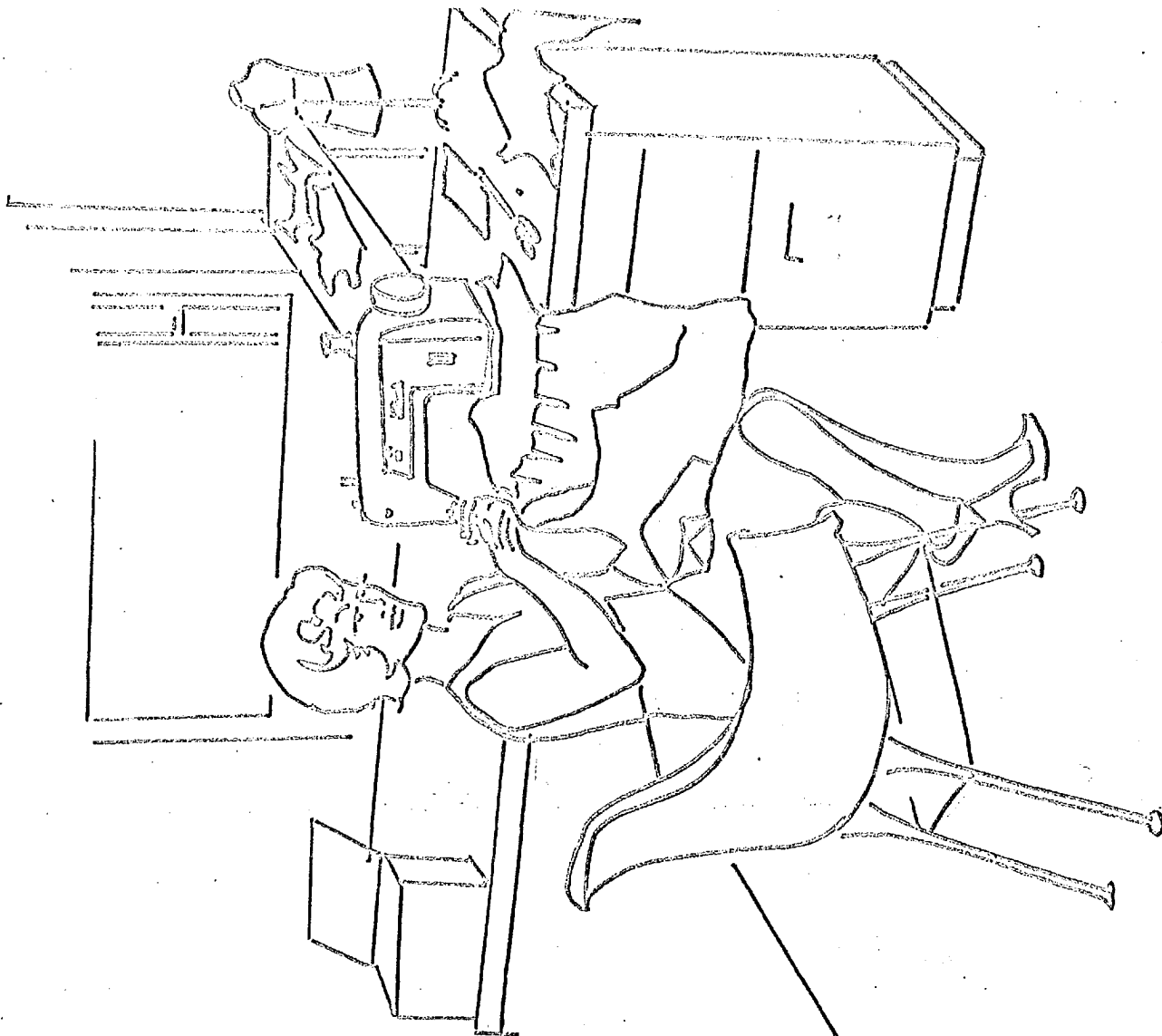
Figure 23. This figure depicts the value of internal privacy and was used to elicit responses in the forced choice technique.

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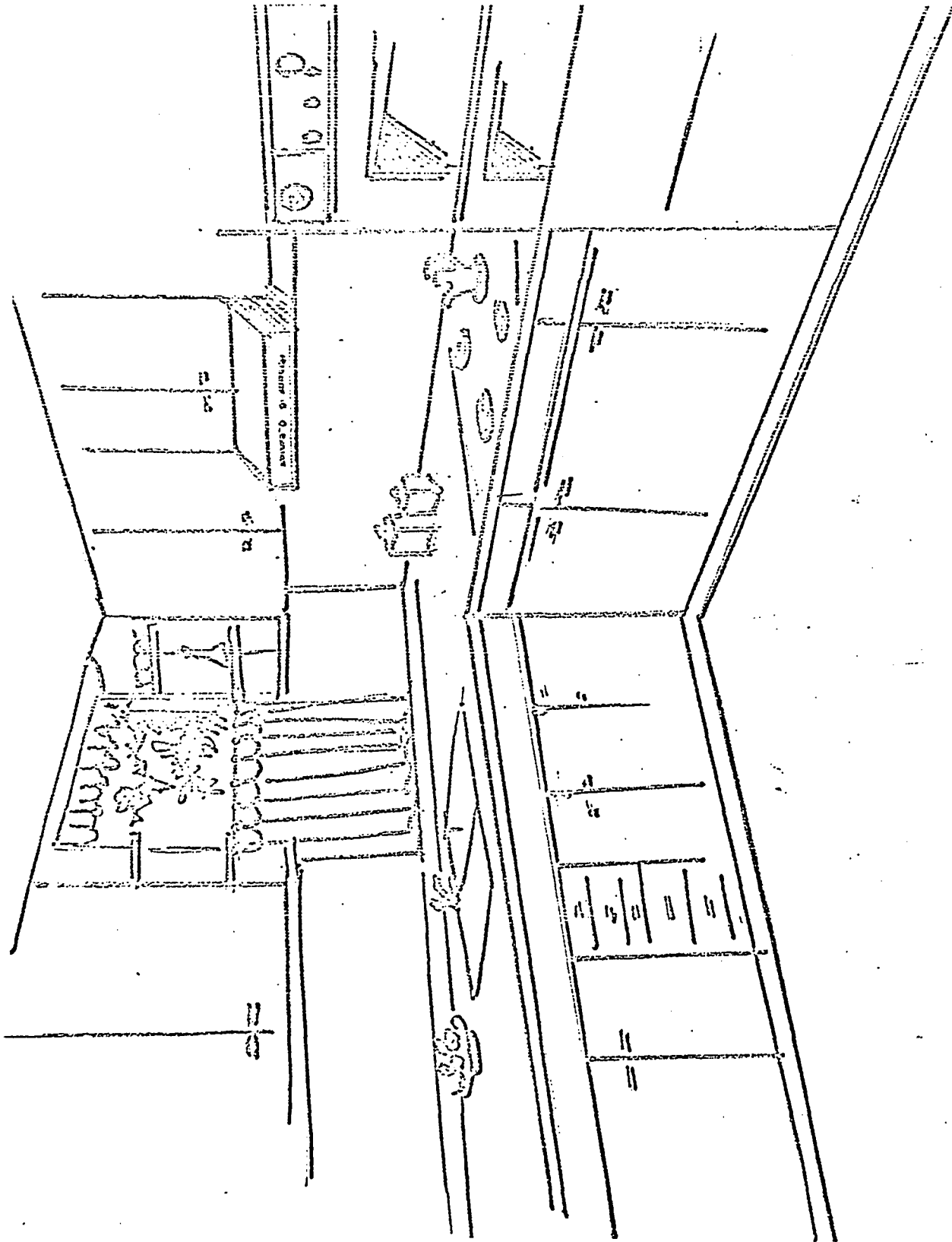
- IF PRIVACY IS POSSIBLE WITHIN THE HOUSE

Figure 24. This figure depicts the value of mental health and was used to elicit responses in the forced choice technique.



IF THE HOUSE HAS SOME PLACE WHERE ONE CAN BE  
FREE FROM THE INTERRUPTION OF FAMILY MEMBERS.

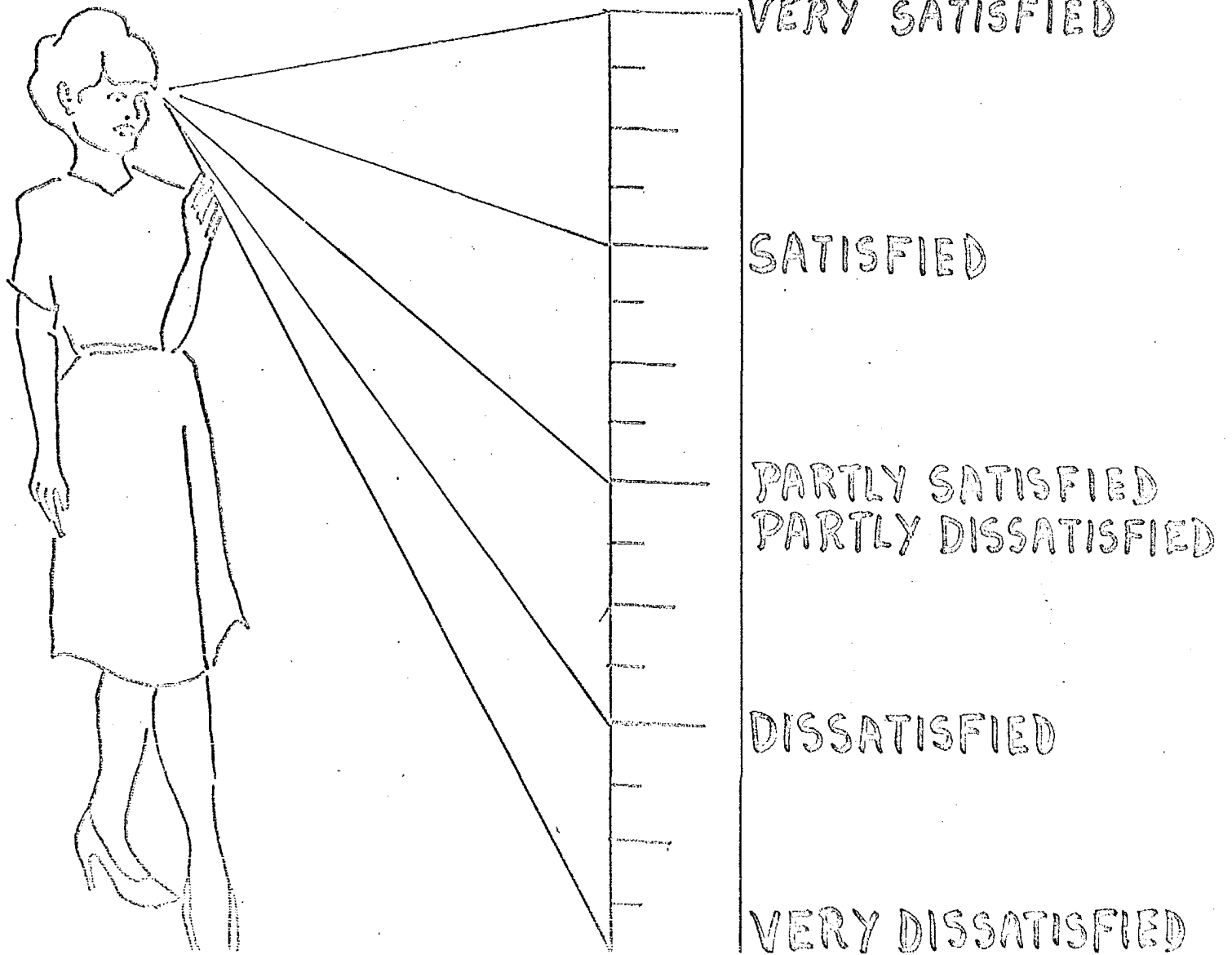
Figure 25. This figure depicts the value of internal convenience and was used to elicit responses in the forced choice technique.



IF THE HOUSE HAS INTERNAL CONVENIENCES

Figure 26. This figure depicts the five point continuum used to elicit the intensity of the satisfaction or dissatisfaction of respondents with various internal and external housing features.





APPENDIX C

Intercorrelations of Value and Satisfaction Scale Items

Table 33. Distribution of the intercorrelation among the items of the familism value scale

Intercorrelation category	Number	Percent
.09 and below	0	0.0
.10 - .19	1	16.6
.20 - .29	3	50.0
.30 and above	2	33.4
Total	6	100.0

Range = .128 to .411

$$\bar{r}_{ij} = .276$$

Table 34. Distribution of the intercorrelation among the items of the economy value scale

Intercorrelation category	Number	Percent
.09 and below	0	0.0
.10 - .19	3	100.0
.20 - .29	0	0.0
.30 and above	0	0.0
Total	3	100

Range = .178 to .209

$$\bar{r}_{ij} = .192$$

Table 35. Distribution of the intercorrelation among the items of the aesthetic value scale

Intercorrelation category	Number	Percent
.09 and below	0	0.0
.10 - .19	1	10.0
.20 - .29	6	60.0
.30 - .39	3	30.0
Total	10	100.0

Range = .139 to .382

$$\bar{r}_{ij} = .277$$

Table 36. Distribution of the intercorrelation among the items of the external privacy value scale

Intercorrelation category	Number	Percent
.39 and below	0	0.0
.40 - .49	2	66.6
.50 - .59	0	0.0
.60 and above	1	33.4
Total	3	100.0

Range = .469 to .624

$$\bar{r}_{ij} = .526$$

Table 37. Distribution of the intercorrelation among the items of the internal privacy value scale

Intercorrelation category	Number	Percent
.19 and below	0	0.0
.20 - .29	3	50.0
.30 - .39	2	33.4
.40 and above	1	16.6
Total	6	100.0

Range = .254 to .419

$$\bar{r}_{ij} = .306$$

Table 38. Distribution of the intercorrelation among the items of the mental health value scale

Intercorrelation category	Number	Percent
.19 and below	1	10.0
.20 - .29	6	60.0
.30 - .39	2	20.0
.40 and above	1	10.0
Total	10	100.0

Range = .204 to .444

$$\bar{r}_{ij} = .266$$

Table 39. Distribution of the intercorrelation among the items of the internal convenience value scale

Intercorrelation category	Number	Percent
.09 and below	0	0.0
.10 - .19	4	66.6
.20 - .29	0	0.0
.30 - .39	1	16.7
.40 and above	1	16.7
Total	6	100.0

Range = .115 to .421

$$\bar{r}_{ij} = .232$$

Table 40. Distribution of the intercorrelation among the items of the internal privacy satisfaction scale

Intercorrelation category	Number	Percent
.09 and below	0	0.0
.20 - .29	1	33.3
.30 - .39	1	33.3
.40 and above	1	33.4
Total	3	100.0

Range = .200 to .601

$$\bar{r}_{ij} = .372$$

Table 41. Distribution of the intercorrelation among the items of the mental health satisfaction scale

Intercorrelation category	Number	Percent
.10 - .19	2	20.0
.20 - .29	2	20.0
.30 - .39	5	50.0
.40 - .49	1	10.0
Total	10	100.0

Range = .161 to .457

$$\bar{r}_{ij} = .318$$

Table 42. Distribution of the intercorrelation among the items of the internal convenience satisfaction scale

Intercorrelation category	Number	Percent
.09 and below	7	25.00
.10 - .19	3	10.72
.20 - .29	11	39.28
.30 - .39	4	14.28
.40 and above	3	10.72
Total	28	100.00

Range = .053 to .676

$$\bar{r}_{ij} = .251$$

Table 43. Distribution of the intercorrelation among the items of the entire house satisfaction scale

Intercorrelation category	Number	Percent
.09 and below	205	36.55
.10 - .19	229	40.83
.20 - .29	92	16.39
.30 - .39	23	4.09
.40 - .49	4	.72
.50 and above	8	1.42
Total	561	100.00

Range = .001 to .676

$\bar{r}_{ij} = .142$



## APPENDIX D

## Items Included in the Satisfaction Scales

SATISFACTION ITEMSInternal Privacy Satisfaction Items

1. How do you feel about the interior of your house with respect to the size of the bedrooms.
2. How do you feel about the interior of your house with respect to the size of the bathroom.
3. How do you feel about the interior of your house with respect to the shape of the bathroom.

Mental Health Satisfaction Items

1. How do you feel about the interior of your house with respect to the adequacy of the number of rooms.
2. How do you feel about the interior of your house with respect to the size of the living room.
3. How do you feel about the interior of your house with respect to the size of the bedrooms.
4. How do you feel about the interior of your house with respect to the size of the bathroom.
5. How do you feel about the interior of your house with respect to the size of the kitchen.

Internal Convenience Satisfaction Items

1. How do you feel about the adequacy of housing utilities with respect to the number of lights and wall outlets in the kitchen.
2. How do you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets in the bathroom.
3. How do you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets in the whole house.
4. How do you feel about the location of lights and wall outlets in the kitchen.

5. How do you feel about the location of lights and wall outlets in the bathroom.
6. How do you feel about the location of lights and wall outlets in the whole house.
7. How do you feel about the interior of your house with respect to the size of the bathroom.
8. How do you feel about the interior of your house with respect to the arrangement of fixtures in the bathroom.

Entire House Satisfaction Items

1. How do you feel about the location of the University Village housing project.
2. How do you feel about the exterior of your house with respect to its attractiveness.
3. How do you feel about the exteriors with respect to common open space around your block of houses.
4. How do you feel about the exterior of your house with respect to privacy.
5. How do you feel about the exteriors with respect to the size of the enclosed front yard of your house.
6. How do you feel about the convenience and safety of the front entrance of your house.
7. How do you feel about the interior of your house with respect to the adequacy of the number of rooms.
8. How do you feel about the interior of your house with respect to the size of the living room.
9. How do you feel about the interior of your house with respect to the size of the bedrooms.
10. How do you feel about the interior of your house with respect to the size of the bathroom.
11. How do you feel about the interior of your house with respect to the size of the kitchen.
12. How do you feel about the interior of your house with respect to the shape of the living room.

13. How do you feel about the interior of your house with respect to the shape of the bedrooms.
14. How do you feel about the interior of your house with respect to the shape of the bathroom.
15. How do you feel about the interior of your house with respect to the shape of the kitchen.
16. How do you feel about the interiors of your house with respect to the facilities for washing and drying clothes.
17. How do you feel about the interior of your house with respect to the location of doors and windows from the point of view of light, ventilation and privacy.
18. How do you feel about the interior of your house with respect to the adequacy of storage space in the kitchen.
19. How do you feel about the interior of your house with respect to the convenience of storage space in the kitchen.
20. How do you feel about the arrangement of the kitchen with respect to the sink, range and refrigerator.
21. How do you feel about the interior of your house with respect to the arrangement of fixtures in the bathroom.
22. How do you feel about the interior of your house with respect to the number, size and location of closets and other storage space in the house.
23. How do you feel about the interior of your house with respect to the safety of the staircase.
24. How do you feel about the interior of your house with respect to the existing plan in which the bedrooms and bath are on the second floor and the cooking, dining, washing and living areas are on the first floor.
25. How do you feel about the overall interior design of the house with respect to keeping it cool and comfortable during summer.
26. How do you feel about the interior of your house with respect to materials used for floors, doors, cupboards, etc., from the standpoint of ease of maintenance.
27. How do you feel about the interior of your house with respect to materials used for floors, doors, cupboards, etc., from standpoint of durability.

28. How do you feel about the utilities of your house with respect to the adequacy and quality of the heating system.
29. How do you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets in the kitchen.
30. How do you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets in the bathroom.
31. How do you feel about the adequacy of housing utilities with reference to the number of lights and wall outlets in the whole house.
32. How do you feel about the locations of the lights and wall outlets in the kitchen.
33. How do you feel about the locations of the lights and wall outlets in the bathroom.
34. How do you feel about the locations of the lights and wall outlets in the whole house.